

N71-11602

FILE
CASE COPY

METEOROLOGICAL DATA CATALOG

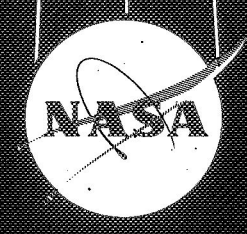
for the

APPLICATIONS TECHNOLOGY SATELLITES

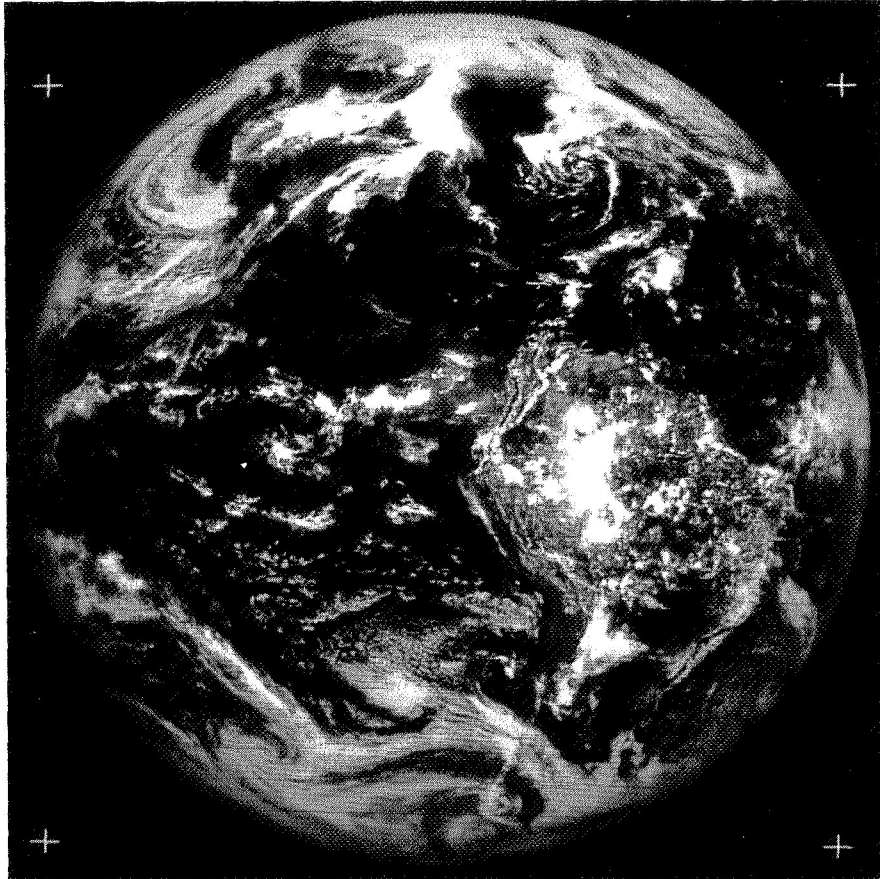
ATS III
USER'S GUIDE &
DATA CATALOG

ATS I
DATA CATALOG

ATS II
SUMMARY



GODDARD SPACE FLIGHT CENTER
GREENBELT, MARYLAND



Frontispiece. ATS-III Multicolor Spin Scan Cloud Camera 17 April 1968 Picture End Time 17 32 34 Z Satellite Subpoint 82.88°W 0.12°S Altitude 22233.59 Statute Miles

FOREWORD

This catalog is the second in a series of catalogs published periodically by the National Aeronautics and Space Administration to document meteorological data acquired from the Applications Technology Satellites. Part I, THE USER'S GUIDE to ATS-III METEOROLOGICAL DATA, describes the meteorological experiments of the ATS-III system; the Multicolor Spin Scan Cloud Camera, and the Image Dissector Camera System. The Guide also gives an explanation of meteorological data acquisition, categorization, cataloging and archiving processes. The User's Guide is a necessary adjunct to Part II, The ATS-III Meteorological Data Catalog, of this publication and to succeeding catalogs containing ATS-III documentation.

ATS-I meteorological data documentation contained in Part III of this document is for the period from 1 July 1967 through 31 January 1968. Part IV contains a brief summary of ATS II activity. Subsequent catalogs will contain documentation through the useful lifetimes of the meteorological sensors of the ATS-I, ATS-III and subsequent ATS satellites, and will be available approximately 90 days following the data acquisition period. These catalogs will present the types of meteorological data available, and meteorological data logs identifying pictures with associated time and quality. Orbital information and samples of photographic data will also be included.

The USER'S GUIDE to ATS-III METEOROLOGICAL DATA was prepared by Mr. Abraham L. Ruiz of the Geophysics Division of Allied Research Associates, Inc., Concord, Massachusetts under Contract NAS 5-10343, for the National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, Maryland. Contributions to this guide were made by Messrs. Wendell S. Sunderlin and John P. Lahzun of the ATS Project and Mr. Gilbert A. Branchflower, IDCS Experimenter of NASA/GSFC. The Allied Research Associates, Inc., technical effort was conducted primarily by Messrs. Leon Goldshlak, James R. Greaves and Walter C. Ahlin. Mr. John W. Lindstrom is the NASA Data Utilization Manager for the ATS Project meteorological experiments.

User's Guides to meteorological data will be published for the remaining meteorological sensors on the ATS series as useful data become available.

Robert J. Darcey
ATS Project Manager
Goddard Space Flight Center

CONTENTS

	Page
FOREWORD	iii
PART I	
USER'S GUIDE TO ATS-III METEOROLOGICAL DATA	
Section 1 INTRODUCTION	3
Section 2 THE APPLICATIONS TECHNOLOGY SATELLITE ATS-III SYSTEM	5
2.1 The Spacecraft	5
2.2 Experiments	6
2.3 The Orbit	6
2.4 Spacecraft Attitude	7
2.5 Data Acquisition	9
2.5.1 Multicolor Spin Scan Cloud Camera Data	9
2.5.2 Image Dissector Camera System Data	9
2.5.3 Orbital and Attitude Computations	9
2.6 Illumination and the Terminator	10
Section 3 THE MULTICOLOR SPIN SCAN CLOUD CAMERA SYSTEM	13
3.1 General Camera Description	13
3.1.1 Optics	13
3.1.2 Electronics	16
3.1.3 The MSSCC Signal Transmission	17
3.2 Camera Operation	18
3.2.1 NORMAL Scan Mode	18
3.2.2 BACK TO BACK Scan Mode	18
3.2.3 Options to NORMAL and a BACK TO BACK Scan Mode	19
3.3 Multicolor Spin Scan Cloud Camera Coverage	20
3.4 Meteorological Data Acquisition	21
3.4.1 The EIS Photofacsimile Recorder	21
3.4.2 Ground Induced Data Displays	22
3.5 Magnetic Tape Recording	27
3.5.1 Digital Recording	27
3.5.2 Analog Recording	28
3.6 Data Documentation and Processing	28
3.6.1 Development of Negatives	28
3.6.2 Identification and Labeling	28
3.6.3 Gridding	29

CONTENTS (Continued)

	Page
3.7 Determination of Time	31
3.7.1 Picture Start Time	31
3.7.2 Scan Line Time	31
3.7.3 Picture Element Pulse Time	31
3.7.4 Satellite Local Time	32
3.7.5 Longitudinal Time Elsewhere in the Picture	32
3.8 Attitude Effects	32
3.8.1 Pitch Determination	32
3.8.2 Yaw Determination	34
3.8.3 Attitude Computation	34
3.9 Data Classification	34
3.10 Archiving and Storage	35
 Section 4 THE IMAGE DISSECTOR CAMERA SYSTEM	 37
4.1 General Camera Description	37
4.1.1 Optics	38
4.1.2 Synchronizing System	38
4.1.3 The Sensor	38
4.1.4 Scan Line Generation	39
4.1.5 Frame Generation	40
4.2 Camera Operation	41
4.3 Types of Data	41
4.3.1 Photographic Data	41
4.3.2 Analog Tape Data	42
4.4 Meteorological Data Acquisition	42
4.4.1 The Photofacsimile Recorder (IDCS)	43
4.4.2 Sun Sync Line	44
4.4.3 Density Levels	45
4.5 Data Documentation and Processing	45
4.5.1 Identification and Labeling	45
4.5.2 Gridding	45
4.6 Determination of Time	47
4.6.1 Scan Line Time	47
4.6.2 Picture Element Pulse Time	47
4.6.3 Satellite Local Time	47
4.6.4 Longitudinal Time Elsewhere in the Picture	47
4.7 Attitude Effects	47
4.7.1 Pitch, Roll and Yaw	47
4.7.2 Nutation	49
4.8 Data Classification	50
4.9 Archiving and Storage	55

CONTENTS (Continued)

	Page
Section 5 METEOROLOGICAL DATA CATALOG	57
Section 6 METEOROLOGICAL DATA AVAILABILITY	59
6.1 ATS Meteorological Data Catalogs	59
6.2 Film Data	59
6.2.1 Black and White	59
6.2.2 Color	60
6.3 Magnetic Data Tapes	60
6.4 Information Retrieval Services	61
PART II	
THE ATS-III METEOROLOGICAL DATA CATALOG	63
Section 1 INTRODUCTION	65
Section 2 ORBITAL DATA	67
Section 3 MSSCC AND IDCS METEOROLOGICAL DATA CATALOG	69
Section 4 MSSCC AND IDCS TAPE LISTINGS	105
PART III	
THE ATS-I METEOROLOGICAL DATA CATALOG	107
Section 1 INTRODUCTION	109
Section 2 ORBITAL DATA	115
Section 3 SSCC METEOROLOGICAL DATA LOG	117
Section 4 SSCC TAPE LISTINGS	289
PART IV	
THE APPLICATIONS TECHNOLOGY SATELLITE, ATS II	347

PART I

USER'S GUIDE

TO ATS-III METEOROLOGICAL DATA

SECTION 1

INTRODUCTION

The User's Guide to ATS-III Meteorological Data has been prepared to provide basic information and initial guidance to potential users of the ATS-III meteorological data.

Section 2 of the guide furnishes background information about the ATS-III system. Sections 3 and 4 discuss, respectively, the Multicolor Spin Scan Cloud Camera and Image Dissector Camera System meteorological experiments and the data derived from them. Data processing is also discussed. Sections 5 and 6 relate to the meteorological data catalog, the availability of data and to retrieval services.

SECTION 2

THE APPLICATIONS TECHNOLOGY SATELLITE ATS - III SYSTEM

2.1 THE SPACECRAFT

The ATS-III is the third of a series of ATS scientific satellites built for the National Aeronautics and Space Administration, Goddard Space Flight Center. The basic ATS-III spacecraft (Figure 2-1) is a cylinder 54 inches long and 57.6 inches in diameter.

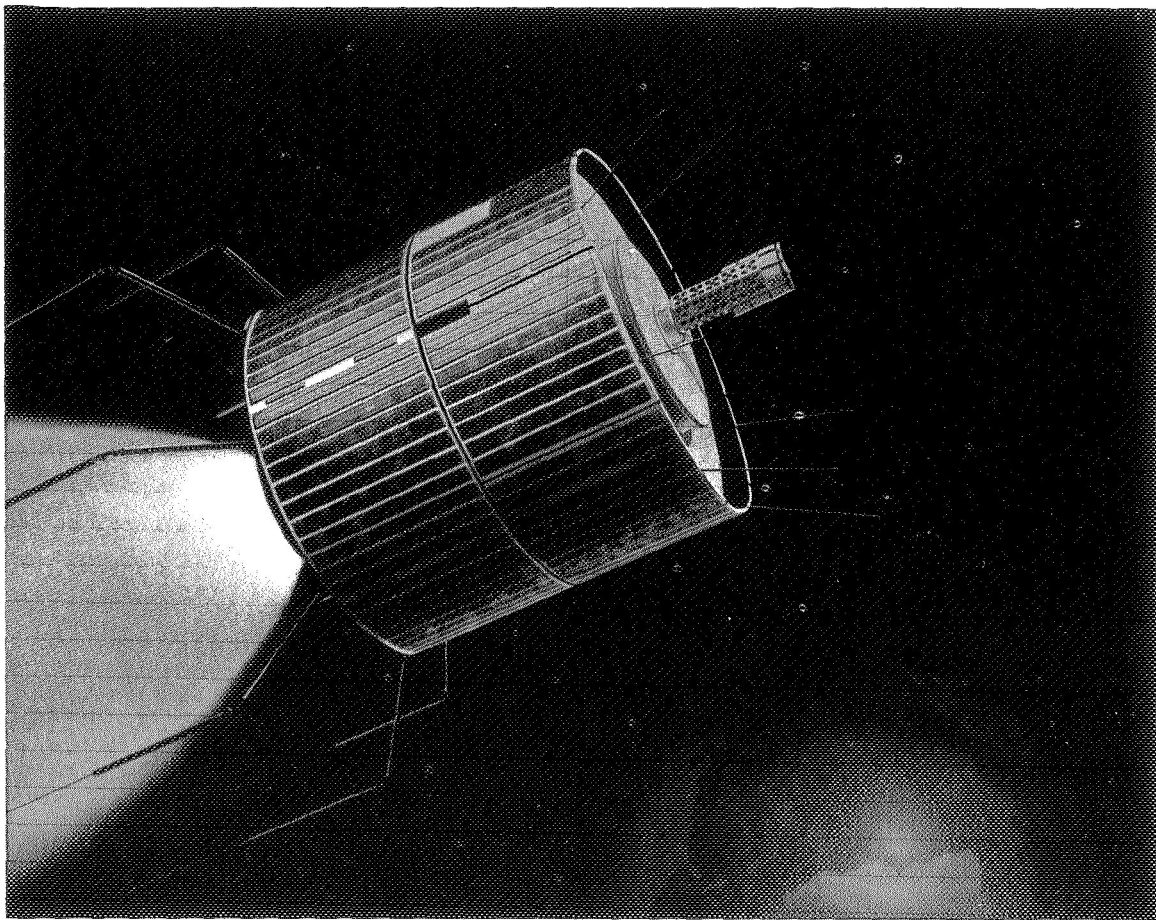


Figure 2-1. ATS-III Spacecraft

Two solar arrays containing 24230 silicon solar cells provide 175 watts for the 11 different experiments on ATS-III. Two 6 amp-hour nickel-cadmium batteries provide reserve power for transient loads and during periods of solar eclipses.

2.2 EXPERIMENTS

The ATS-III payload consists of the following 11 experiments:

- 1) The VHF Repeater Experiment. To demonstrate the feasibility of providing a continuous voice and data communications link between a ground control station and aircraft or ships at sea or unmanned meteorological stations; to evaluate the equipment required; and to evaluate VHF propagation phenomena.
- 2) Ionospheric Propagation Experiment. To study propagation effects through the ionosphere.
- 3) Resisto Jet Experiment. To evaluate the effectiveness of a microthrust system using gaseous ammonia as a fuel.
- 4) Mechanically Despun Antenna. To demonstrate the feasibility of a mechanically despun antenna.
- 5) Range and Range Rate Evaluation. To test new range and range rate equipment.
- 6) Telemetry and Command Calibration. To demonstrate the feasibility of using a spacecraft as a master calibrating source for the ATS command transmitters and telemetry receivers.
- 7) Microwave Communication Experiments. To conduct experiments using the spacecraft microwave transponder for multiple-access telephone relay systems and to demonstrate the feasibility of transmitting color television and other wide band signals via the ATS-III.
- 8) Self-Contained Navigation Experiment. To demonstrate and evaluate the capability of a star scanning system to determine spacecraft attitude and position.
- 9) Reflectometer Experiment. To test the durability of specularly reflective surface materials for an extended period in space.
- 10) The Multicolor Spin Scan Cloud Camera. This experiment is described in Section 3.
- 11) The Image Dissector Camera System. This experiment is described in Section 4.

2.3 THE ORBIT

ATS-III was launched from the Air Force Eastern Test Range, Cape Kennedy, Florida, at 23 hours 37 minutes 00.265 seconds Greenwich Mean Time on the 5th of

November 1967. An earth synchronous orbit was achieved with an apogee height of 19266.08 nautical miles (35704.84 km) and a perigee height of 19063.99 nautical miles (35330.31 km). The orbital eccentricity was 0.00447 with an inclination of 0.536° .

The spacecraft is anticipated to maintain a nominal position at 47° West longitude, however, the location of the spacecraft will be changed as experiment requirements dictate.

The properties of an ideal earth synchronous orbit are: 1) a prograde orbit (direction of motion in the same direction as the earth's rotation) with a 24 hour period; 2) an equatorial orbit (inclination zero); and 3) essentially zero eccentricity (circular orbit). The resulting orbit combined with the earth's rotational period of 24 hours causes the satellite to appear to hover over a fixed geographic point on the equator.

Small deviations from a perfect orbit cause the daily execution of a small "figure eight" subpoint track crossing the equator at the nominal subpoint. The figure eight is oriented North-South. The latitude of the northern and southern extremities equals the orbital inclination. The maximum longitudinal displacement is less than the latitudinal displacement.

The eccentricity of the orbit produces a single daily oscillation of the subpoint longitude. Since perigee can occur anywhere in orbit, there is no necessary relation between the plane of this apparent motion and that resulting from the orbit inclination.

The motion of the subpoint resulting from the combination of satellite drift, orbital inclination and orbital eccentricity is fairly complex. Fortunately, the motion has been of sufficiently small magnitude to be neglected in all but the most detailed application.

2.4 SPACECRAFT ATTITUDE

The ATS-III spacecraft is spin stabilized at a nominal 100 rpm (and can be stabilized at any spin rate between approximately 50 and 150 rpm) with the spin axis aligned with that of the earth. As such, the spinning spacecraft acts as a free gyro. Rotational position, or phase, is measured relative to the sun by the satellite's sun sensors. Spacecraft spin up is attained by ejecting nitrogen through a pair of tangentially located jets. Two independent 5-pound thrust control jet subsystems (hydrogen peroxide and hydrazine propellants) are used for adjustments in orbital inclination and/or eccentricity, thereby maintaining the satellite spin axis in the desired orientation in inertial space.

During a 24 hour period, the spin axis of the satellite can be considered essentially fixed in inertial space at some angle relative to earth's axis. However, during the period, this angle, when viewed from the subpoint, will rotate 360° in inertial space. As the observer rotates with the earth, the axis of the satellite sweeps out a circular cone of half-angle equal to the angle between the spin axes of the earth and satellite.

Spacecraft attitude is defined in terms of pitch and yaw. Figure 2-2 shows the attitude axes and defines the signs of the attitude motions.

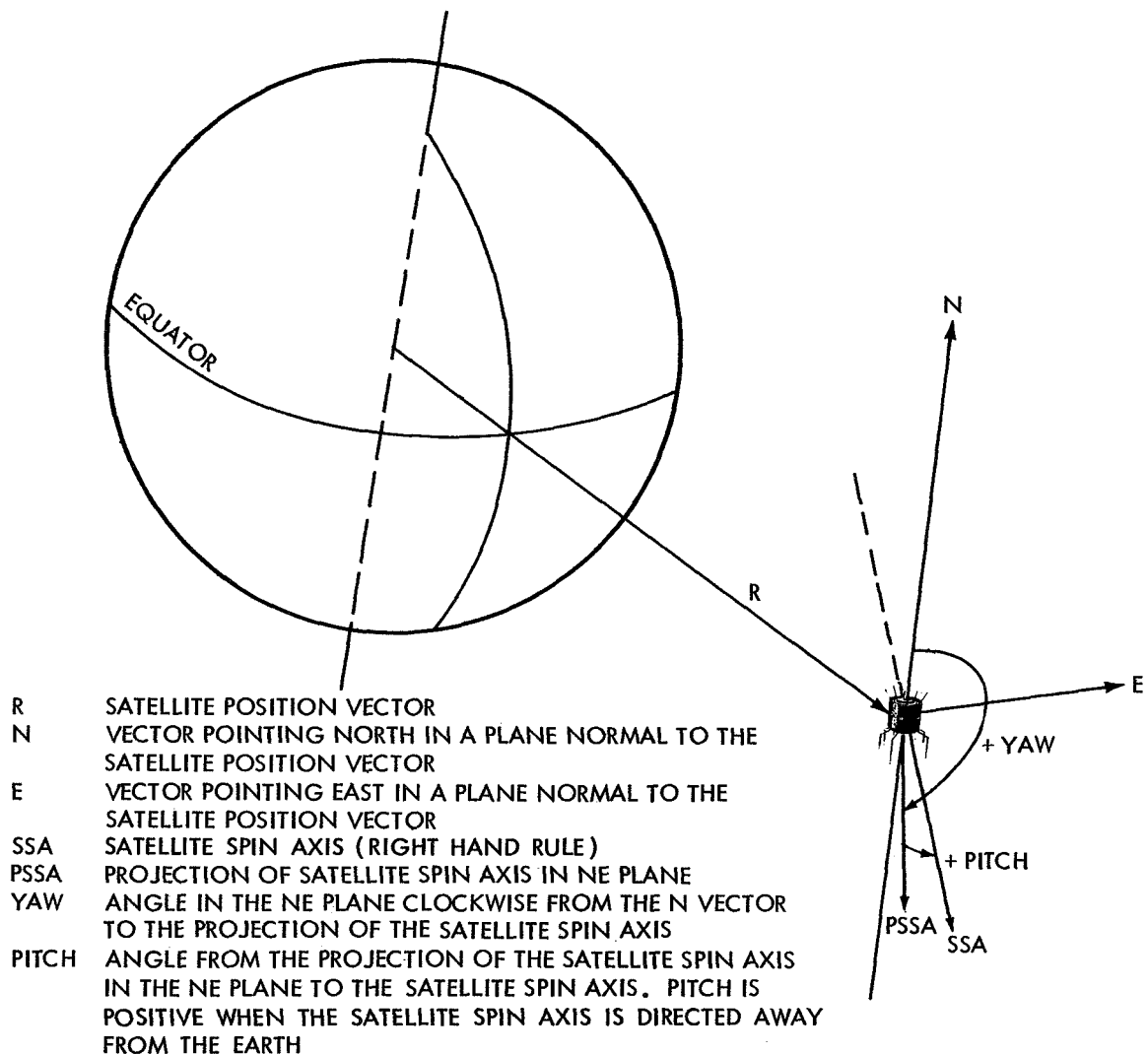


Figure 2-2. Spacecraft Attitude

The ATS convention for specifying yaw is to measure positive angles clockwise from north and to measure negative angles counterclockwise from north. Since the satellite spin axis is directed southward, normal operating yaw is specified as 180° . A positive 1° deviation from nominal is specified as -179° and a negative 1° deviation is specified as $+179^\circ$.

Satellite attitude displacements appear as 24 hour near-sinusoidal cycles of yaw and pitch (each of equal magnitude); the yaw cycle lagging the pitch cycle by 90° (or six hours). At the time of maximum yaw the pitch is zero, and vice versa. There is no necessary relation between the phases of the attitude error components and the phases of subpoint motions resulting from orbital inclination or eccentricity.

Disturbances may on occasion induce nutation. Thus far, the ATS I and III satellites have not experienced a nutation problem.

The IDCS experiment includes facilities to detect, record, and compensate for satellite nutation (Section 4.7.2).

2.5 DATA ACQUISITION

A network of six ground stations supports the ATS operation. Two stations assume responsibility for: 1) tracking the spacecraft during its normal scientific lifetime; 2) controlling the spacecraft, conducting experiments and/or demonstrations; and 3) recording and processing spacecraft housekeeping data for quick-look assessment of the spacecraft. The two controlling ground stations are located at Rosman, North Carolina, and Mojave, California. The Rosman ground station assumes primary responsibility for the acquisition of Multicolor Spin Scan Cloud Camera (MSSCC) and Image Dissector Camera System (IDCS) data.

2.5.1 Multicolor Spin Scan Cloud Camera Data

The Rosman ground station acquires MSSCC data from the spacecraft. Digital and analog tape records, and exposed 4 x 5 inch Ektacolor Type S negatives are produced at the Rosman ground station. The undeveloped negatives are mailed in insulated frozen containers to the Nimbus ATS Data Utilization Center (NADUC) Photographic Laboratory in Seabrook, Maryland (approximately two miles from Goddard Space Flight Center, GSFC).

2.5.2 Image Dissector Camera System Data

The Rosman ground station acquires IDCS data from the spacecraft and an analog tape is produced. When data communication lines are available, the signal is instantaneously transmitted from Rosman to an Electronic Image System (EIS) Photofacsimile Recorder at the Nimbus Data Handling System (NDHS), GSFC. If data communication lines are not available during acquisition of IDCS data, the analog tapes are played back when time on the communication lines become available. The EIS photofacsimile recorder produces a 4 x 5 inch black and white Polaroid (Type 55 P/N) paper positive and film negative.

2.5.3 Orbital and Attitude Computations

The GSFC Computation Division is responsible for producing the ephemeris and attitude computations to support the ATS satellite activities.

The ephemeris tape consists of many files. The first three files are of principal interest and contain:

File 1, BCD identification data.

File 2, Ephemeris constants.

File 3, The following entries:

- year, month and day; i.e., 67 9 16
- hours, minutes and seconds; i.e., 13 20 00 (listing every 10 minutes)
- longitude in degrees (+ is east, - is west); i.e., -050.43
- latitude in degrees (+ is north, - is south); i.e., +0.06
- altitude in statute miles; i.e., 22241.87
- yaw in degrees; i.e., -179.97
- pitch in degrees; i.e., +0.46
- sun azimuth in degrees; i.e., 81.78
- sun elevation in degrees; i.e., 19.82

Spacecraft tracking computation is based on Range and Range Rate and Polarization Angle (POLANG) data. The Range and Range Rate system measures range to within 1.5 meters by making a phase delay comparison between ground transmitted sidetones and sidetones returned through the satellite. Range rate to 0.01 meter/second is obtained by measuring the Doppler shift of a sidetone which is added to the range tone. POLANG is referenced to the local vertical and is read out with an accuracy of 0.1° from the linearly polarized RF received in the spacecraft.

Satellite attitude is computed from sun sensor and polarization data.

2.6 ILLUMINATION AND THE TERMINATOR

The view of the earth from the ATS-III satellite at earth synchronous height is similar, in many respects, to that of the moon viewed from the earth. The earth goes through "phases" on a 24 hour cycle similar to the phases of the moon. However, there are important differences.

The orbit of the moon lies near the plane of the ecliptic so that the apparent shape of the terminator (the sunrise or sunset line on the moon) does not change materially with the season. However, the ATS-III is in an orbit inclined approximately 23° to the ecliptic resulting in a strong seasonal trend to the apparent shape of the earth terminator. For example, the terminator is tangent to the arctic circle at the winter solstice and to the antarctic circle at the summer solstice. At the time of the equinox, the terminator is essentially symmetrical North-South. Seasonal effect on the terminator is obvious in the Multicolor Spin Scan Cloud Camera and the Image Dissector Camera System pictures.

The terminator viewed in the Multicolor Spin Scan Cloud Camera or the Image Dissector Camera System picture contains a distortion induced by the method of

picture generation. At the time the first scan line crosses the terminator, the terminator has the location on earth appropriate to that time. Each succeeding scan line finds the terminator farther westward. The southern extremity of the terminator (Figure 2-3a) is displaced the most in those pictures generated by the Multicolor Spin Scan Cloud Camera in the NORMAL scan mode (Section 3.2.1) and the Image Dissector Camera System in the LATITUDINAL scan mode (Section 4.1.3.2). The northern extremity of the terminator (Figure 2-3b) is displaced the most in those pictures generated by the Multicolor Spin Scan Cloud Camera during retrace in the BACK TO BACK scan mode (Section 3.2.2). The equatorial position of the terminator is displaced the most in those pictures generated by the Image Dissector Camera System when operating in the LONGITUDINAL mode (Section 4.1.3.1).

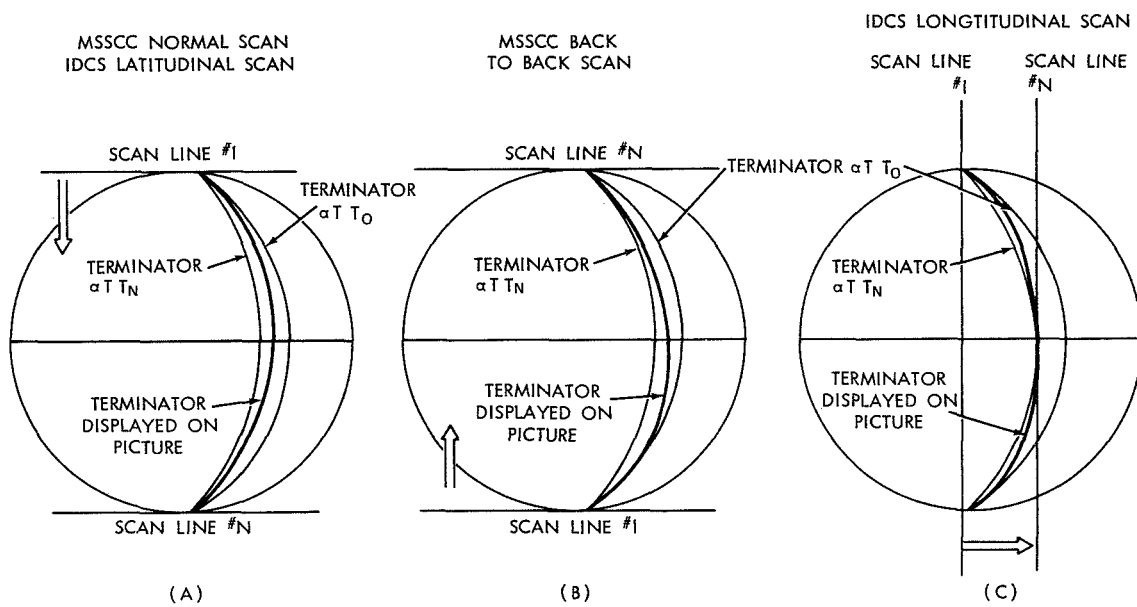


Figure 2-3. Terminator Distortion at Time of Equinox

SECTION 3

THE MULTICOLOR SPIN SCAN CLOUD CAMERA SYSTEM

3.1 GENERAL CAMERA DESCRIPTION

The Multicolor Spin Scan Cloud Camera (Figure 3-1) consists of a high resolution telescope, three photomultiplier light detectors, and a precision latitude step mechanism. The latitude step motion, combined with the spinning motion of the ATS satellite, permits scanning a complete earth disc. See frontispiece and insert for classic examples of black and white (green channel) and color data. The area is swept out by 2400 horizontal (west to east) scan lines. The ground resolution is 2 nautical miles at the satellite subpoint. Camera system parameters are listed in Table 3-1.

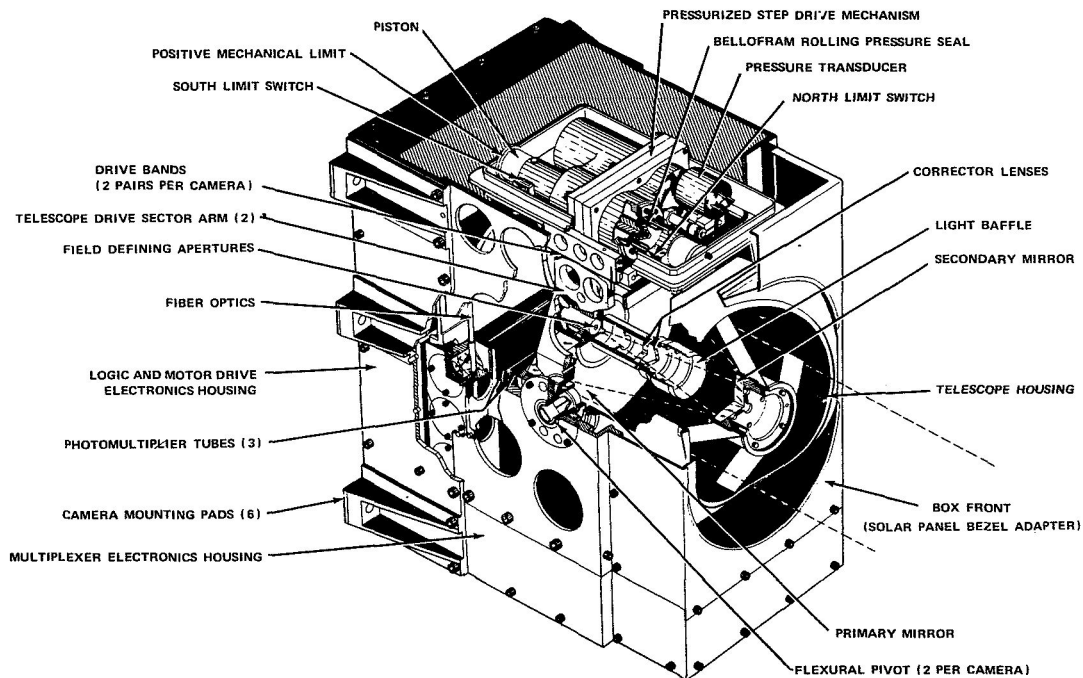


Figure 3-1. ATS Multicolor Spin-Scan Cloud Camera

3.1.1 Optics

The optical system (Figure 3-2), consisting of a primary 5-inch elliptical mirror and a secondary 1.82 inch spherical mirror, has a focal length of 15 inches. Light is directed onto an image plane where three 0.0015 ± 0.0001 inch diameter field defining

TABLE 3-1
CAMERA SYSTEM PARAMETERS

Optical System

Type	Wynn-Rosin
Focal length	15 inches
Primary mirror	5-inch diameter, elliptical
Secondary mirror	1.8-inch diameter, spherical
Instantaneous field of view	0.1 ± 0.02 mrad diameter (50% modulation)
Field stop diameter	0.0015 ± 0.0001 inch (three each)
Mirror substrate material	Fused Silica
Spectral bandpass	Channel I (blue) 3800A to 4800A Channel II (green) 4800A to 5800A Channel III (red) 5500A to 6300A (Defined by optical filters and photocathodes)

Photomultiplier

Type	EMR Model 541A-01-14 (S-11) EMR Model 541E-01-14 (S-20)
Voltage gain	Ground command adjustable range 6:1 (four steps)

Scan System

Line scan	Spacecraft rotation (100 rpm nominal)
Latitude or step scan (18° total)	Camera step provided by sealed mechanical drive (one step per line)
Lines per frame	2407 lines
Frame time	24 minutes (100 rpm SC spin rate)
Vertical retrace time	2.4 minutes

Scan System (Continued)

Dwell period (time for instantaneous field to scan a point source) 9.56 μ sec (100 rpm SC spin rate)

Scan commands

Start step
Stop step
North override limit
South override limit
NORMAL scan
BACK TO BACK scan
Step/Revolution

Electronics

Voltage gain (video amplifier) Green 0.95; Red 1.25; Blue 1.01

Gain stability 0° C to 50° C $\pm 0.5\%$

Signal dynamic range $\geq 1000/1$

Linearity $\leq 0.5\%$

Electronic band width 160 KHz each channel

Signal output ± 0.5 volt at 75 ohms (single output)

Sun pulse input

An input is provided for connection to a spacecraft sun sensor. A 200-400 mv positive sun pulse at this input is added to the red and green video

Size 12 X 11 X 7 inches

Weight 23.5 lb

Power (maximum) - 24 vdc, 900 ma

Operating Temperature +40° to +100° F (environment)

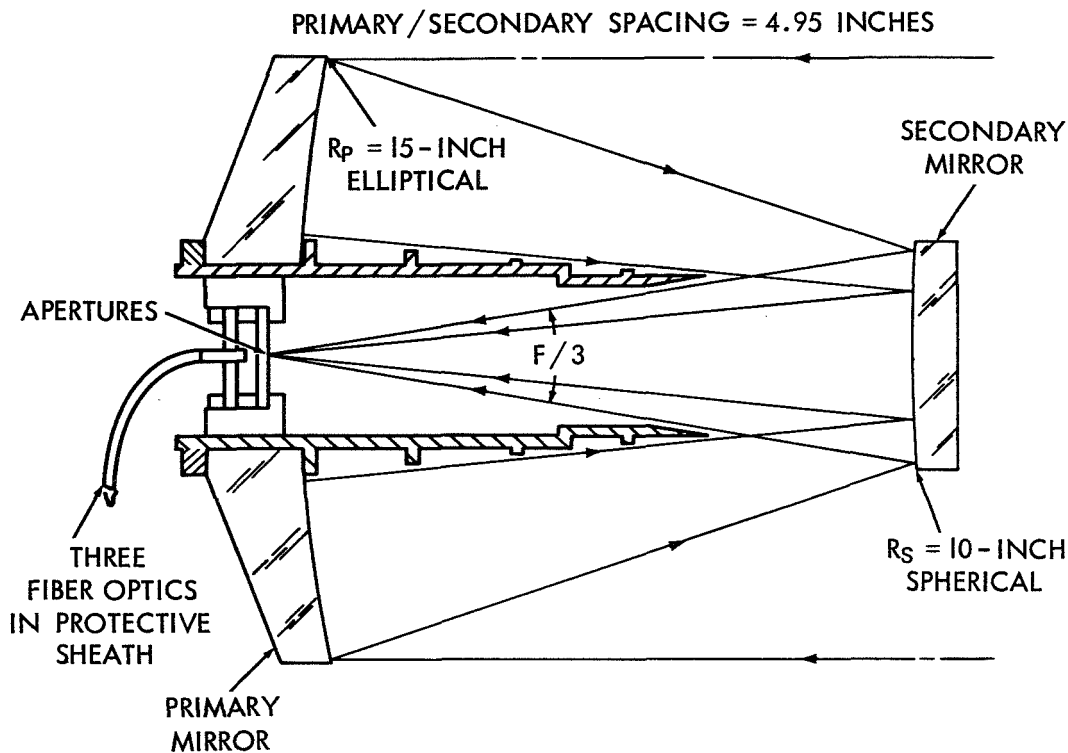


Figure 3-2. Schematic of Multicolor Spin-Scan Cloud Camera Optical Telescope

apertures are placed 0.010 inches apart. The primary mirror, the secondary mirror and the aperture plate are made of fused silica to provide optimum dimensional stability.

Each aperture defines a color signal as shown in Figure 3-3. Energy collected by the moving telescope is transmitted by fiber optics to stationary photomultiplier tubes. The physical displacement of the apertures in the optical system results in a time delay between the color signals as indicated in Figure 3-4.

3.1.2 Electronics

The MSSCC video circuitry consists of identical amplifier channels for each of the three colors: red, blue, and green. A single sun-pulse amplifier supplies sun-synchronizing pulses to the red and green video channels.

Separate video channel gain controls, activated by ground command, permit transmission of the video output at the highest possible level. (Optimum gain in each channel is difficult to present because of earth scene brightness variations and long term changes in photomultiplier tube performance.) Failure of any part in the gain command circuits, external to the high voltage converter, will not cause loss of high voltage. Operation will continue at the gain in use at the time of failure.

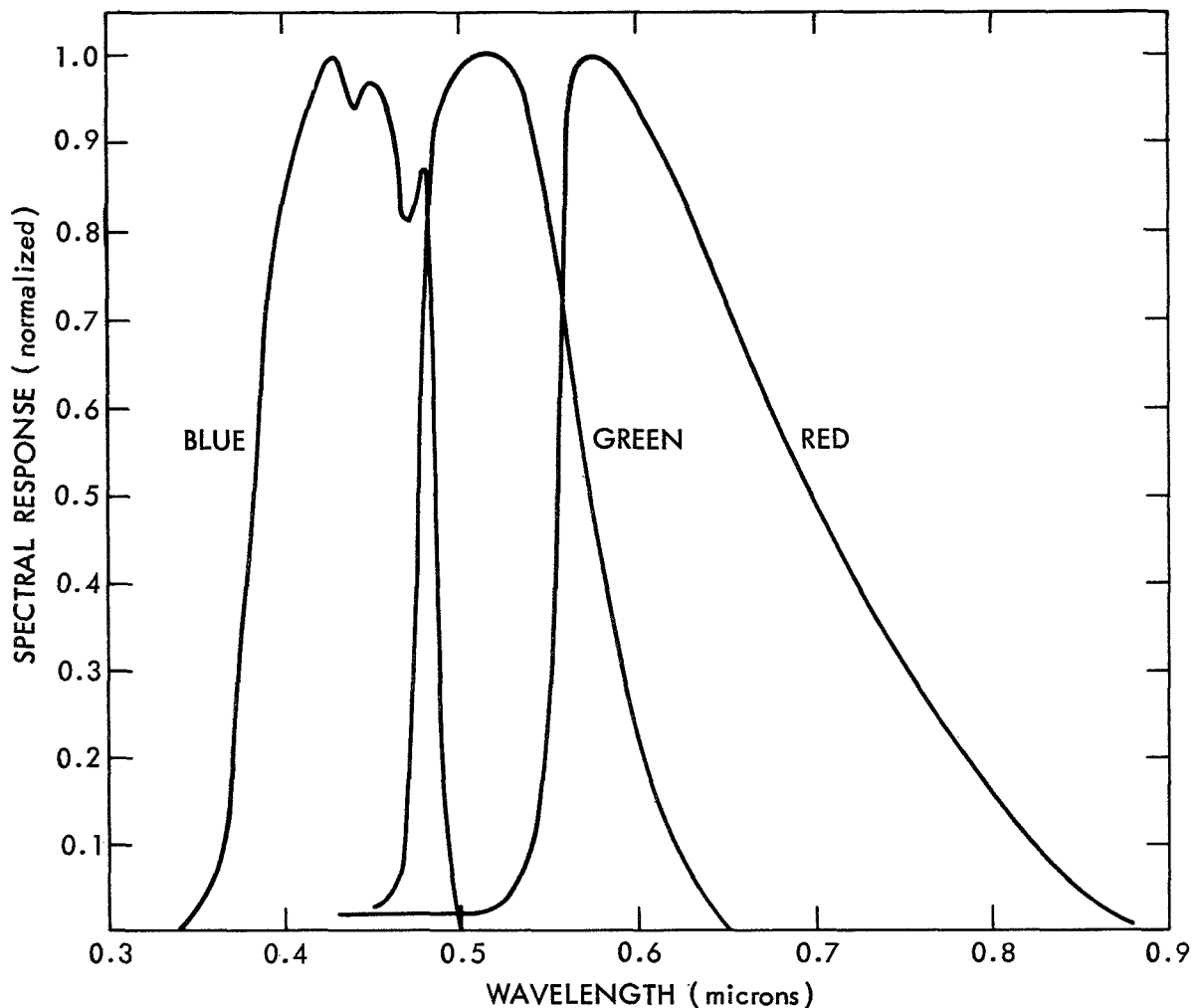


Figure 3-3. Spectral Response vs Wavelength

3.1.3 The MSSCC Signal Transmission

The Multicolor Spin Scan Cloud Camera requires the transmission of three color signals. (One was required by the black and white Spin Scan Cloud Camera on ATS-I.) However, only one spacecraft voltage controlled oscillator (VCO) is available for modulating the microwave transmitter. Therefore, multiplexing is used for near-simultaneous transmission of the three color signals. Transmission of time division multiplexed signals is made by a single wideband video transmitter at a 500 KHz rate with a bandwidth of 150 KHz per channel. The red and green channels contain a sun pulse for horizontal synchronization of the photofacsimile recorder. A 20 KHz tone burst of 30 millisecond duration is applied to the reference channel at the camera

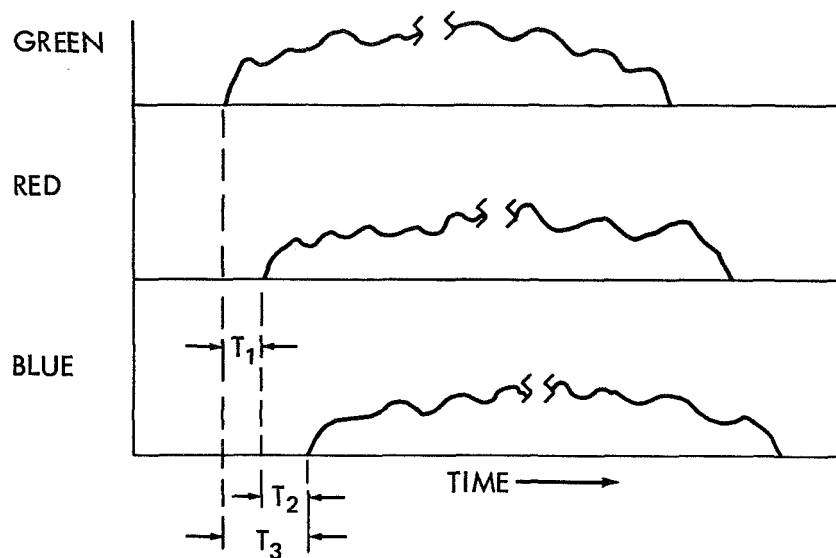


Figure 3-4. Color Signal Time Delay

stepping instant. This synchronizing pulse enables an accurate line count, color line sequential recording, and can be used as backup synchronization in cases of sun sensor failure.

3.2 CAMERA OPERATION

The Multicolor Spin Scan Cloud Camera can function in two scan modes, NORMAL or BACK TO BACK. Either of these modes can be modified to accept certain features.

3.2.1 NORMAL Scan Mode

In the NORMAL scan mode, the telescope sweeps through 2400 steps ($17^{\circ} 56' 50''$ of arc) north to south in synchronization with the spinning satellite at the commanded rate (Sections 3.2.3.5 and 3.2.3.6). Upon reaching the southern limit, the telescope re-traces to the northern limit in 2.4 minutes. Since retrace is not synchronized with the spinning satellite, no useful video is produced. The complete cycle requires 26.4 minutes when the camera steps at one step per revolution and when the satellite spin rate is 100 rpm. At a satellite spin rate of 80 rpm, 32.4 minutes are required for a complete cycle.

3.2.2 BACK TO BACK Scan Mode

The BACK TO BACK scan mode is identical to the NORMAL scan mode during the north to south travel of the telescope. However, during retrace, the BACK TO BACK scan mode produces useful video as the telescope steps from south to north in synchronization with the spinning satellite at the commanded rate (Section 3.2.3.5 and 3.2.3.6).

A complete cycle requires 48 minutes when the camera steps one step per revolution and the satellite spin rate is 100 rpm. At a satellite spin rate of 80 rpm, 60 minutes are required for a complete cycle.

Data presentation during camera retrace in the BACK TO BACK scan mode differs from data produced in the NORMAL scan mode in that data are reversed in location. The southernmost data are read out, recorded and presented before the northernmost data.

3.2.3 Options to NORMAL and BACK TO BACK Scan Mode

3.2.3.1 South Limit Override

This feature is designed to end the north to south stepping of the telescope at any selected step prior to the southernmost limit.

3.2.3.2 North Limit Override

This feature is designed to end retrace at some step prior to the telescope reaching the northernmost limit of travel. Combination of the two override features permits more coverage (per unit time) of smaller latitudinal extent. This combination of features could also be used to reduce the total angular motion of the telescope, if it is believed that telescope motion is causing spacecraft nutation.

3.2.3.3 Start Step

This feature connects the spacecraft Mechanical Array Control Electronics step command to the telescope step circuits to permit step operation.

3.2.3.4 Stop Step

This feature disconnects the Mechanical Array Control Electronics from the camera step logic to allow for spacecraft nutation evaluation and for demultiplex balance and display adjustments. Stepping of the telescope ceases when this feature is implemented. However, the telescope will continue to its northern limit if this feature is implemented during telescope retrace.

3.2.3.5 Step Revolution

This feature permits stepping the telescope in synchronization with the spinning spacecraft at the rate of one step per revolution. With a spacecraft spin rate of 100 rpm, 24 minutes are required to scan 2400 lines ($17^{\circ}56'50''$ of arc) of video.

3.2.3.6 Step/3 Revolutions

This feature enables ground recording of color video in line sequential form. The photofax recorder is color synchronized by using the step tone (Section 3.1.3) to initiate the start of a color commutating sequence. This feature requires that the telescope

advance one step for every third revolution of the satellite. As a result, 72 minutes are required to step through 2400 steps ($17^{\circ}56'50''$ of arc) at a satellite spin rate of 100 rpm.

3.2.3.7 Video Gain Levels

Video gain levels for each of the three colors (blue, green, and red) can be changed to any one of four predetermined levels. Use of this feature allows for maximum use of the system dynamic range.

3.3 MULTICOLOR SPIN SCAN CLOUD CAMERA COVERAGE

The Multicolor Spin Scan Cloud Camera system produces a single west to east line scan with each or every third revolution of the satellite. Each successive scan line butts against the preceding line. The total image is a complete earth disc displaying approximately 81.3° of latitude north and south at the meridian of the subsatellite point and approximately 81.3° of longitude east and west of the subsatellite point (Figures 3-5 and 3-6).

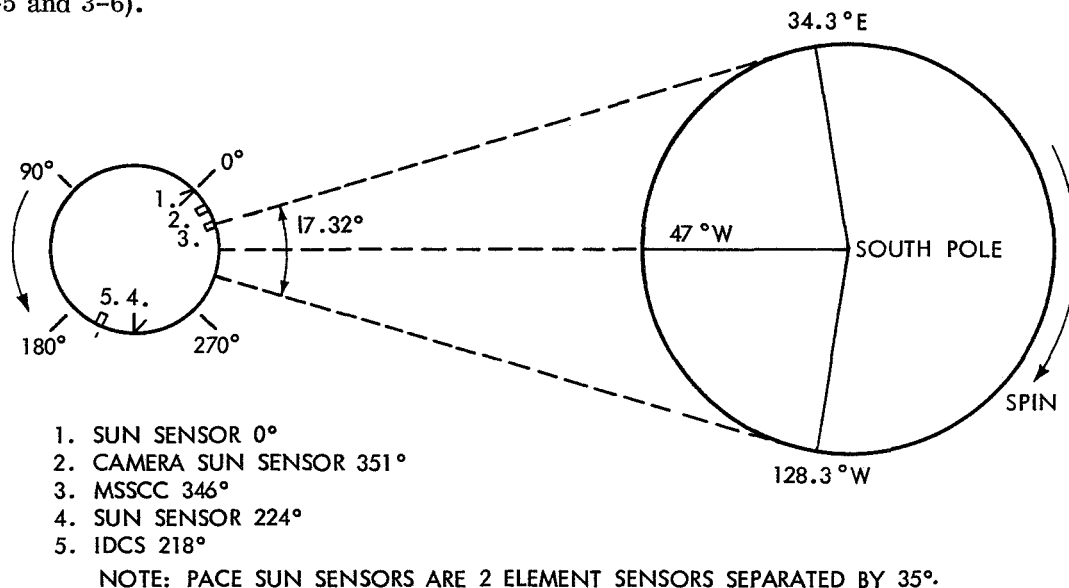


Figure 3-5. Spin Scan Cloud Camera W-E Geometry

Nominal earth area coverage is shown in Figures 3-7 and 3-8. It should be noted that when the satellite is in nominal attitude orientation, a line of sampled earth data is tangent at the meridian containing the satellite subpoint, except for the scan which observes data on the equator.

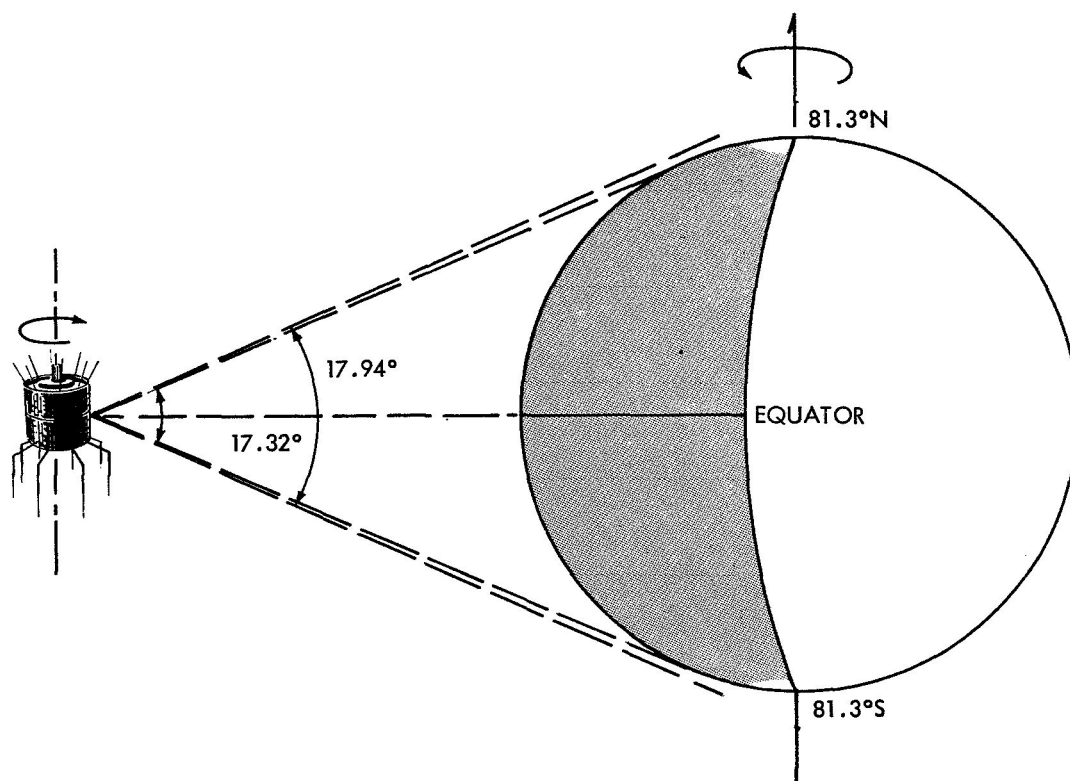


Figure 3-6. Spin Scan Cloud Camera N-S Geometry

3.4 METEOROLOGICAL DATA ACQUISITION

Meteorological data are acquired at the Rosman, North Carolina, acquisition site. The basic display is exposed by a modified Electronic Image System (EIS) Photofacsimile Recorder onto a 4 x 5 inch Ektacolor Type S negative or Polaroid (type 55P/N) positive paper and negative film sheet. The image area is approximately 3.1 x 3.42 inches. Representation of the earth diameter on the film is a nominal 3.08 inches at the equator.

3.4.1 The EIS Photofacsimile Recorder

The EIS photofacsimile recorder receives the analog video from the video processor, digital video data from the core buffer, and timing signals from the synchronizer. Video information is displayed on a high resolution five inch cathode ray tube (CRT) for projection onto film. The light spot emitted by the CRT is reflected by a full silvered mirror to the film. Photomultipliers measure the integrated light output and compare it with the brightness indicated by the incoming video signal. When the two values coincide, the CRT beam is shut off and the entire process recycled for the next presentation. Exposure is accurate to about two percent of the video level.

Light directed to the Ektacolor film plate passes through three Wratten filters [47B (blue), 99 (green) and 26 (red)] mounted on a synchronized color wheel. These filters closely match the Kodak Ektacolor Type S film used.



Figure 3-7. MSSCC Nominal Earth Coverage SSP 47°W

Black and white Polaroid type 55 P/N film can be exposed by removing the color filter wheel and switching from the color control balance to the black and white control balance.

3.4.2 Ground Induced Data Displays

3.4.2.1 Gray Scale

A gray scale display is added to all recorded photofacsimile, analog and digital video signals. The gray scale appears as a 1/8 inch vertical bar at the right edge of the picture frame (Figure 3-10) and consists of 10 levels of gray from black at the top step to white at the 10th step. Each step is equivalent to 192 lines and 127 Picture Element Pulses. The video levels referenced to the photofacsimile input are as follows:

STEP	SHADE	INPUT VOLTAGE TO FACSIMILE
1	BLACK	0.0
2		0.004
3		0.008
4		0.016
5		0.031
6		0.063
7		0.125
8		0.250
9		0.500
10	WHITE	0.996

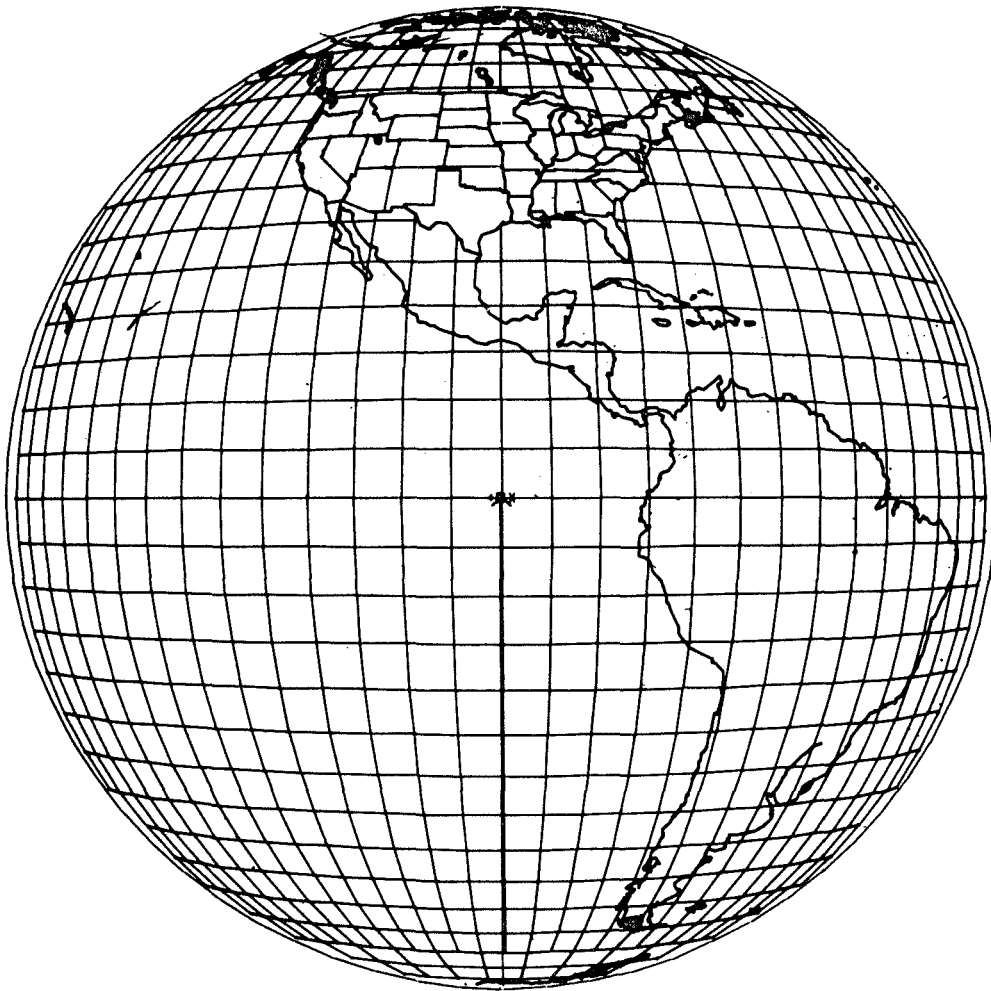


Figure 3-8. MSSCC Nominal Earth Coverage SSP 95° W

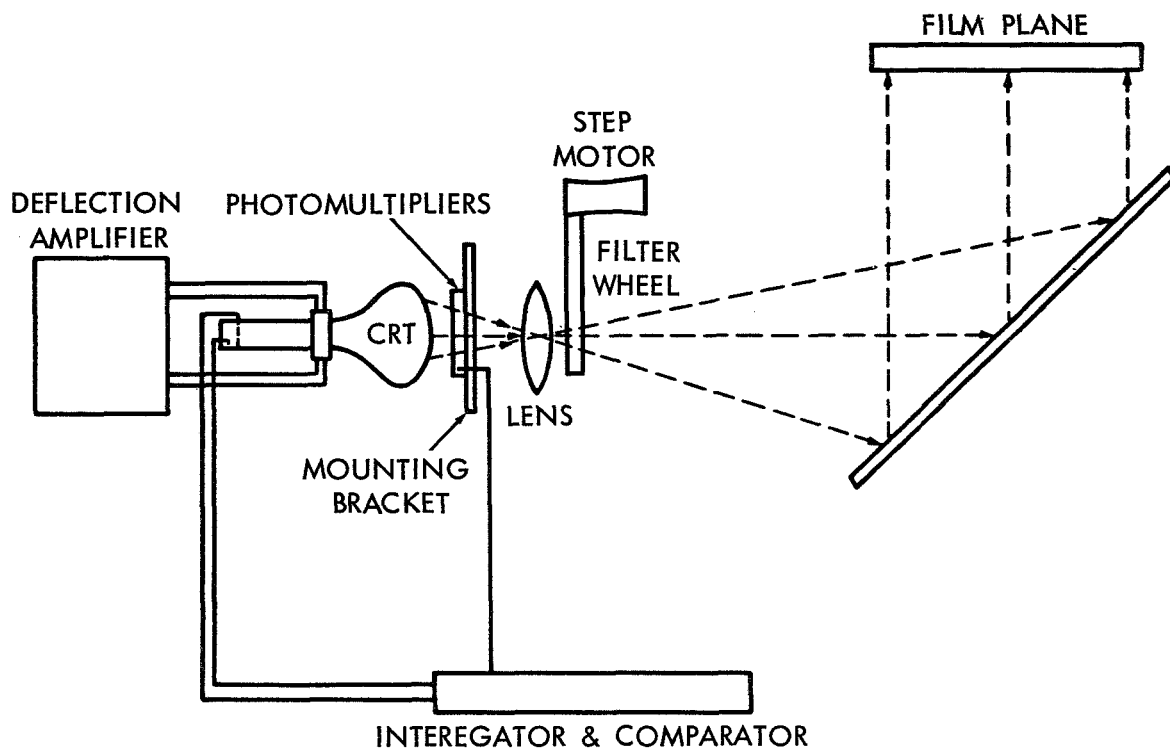


Figure 3-9. EIS Beam (MSSCC)

Four color wedges, green, red, blue, and white, were added beginning with 28 December 1967 data. Wedge sizes are defined in Figure 3-10.

3.4.2.2 Fiducial Marks

A fiducial mark generator produces a mark signal to the video processor. The marks are located outside of the earth image and are of a fixed size and position with respect to the line and element counts (Figure 3-10).

3.4.2.3 "Sync Error" Display and Line Count

This display appears at the left edge of the film and is used for technical evaluation (Figure 3-10). In addition to the sync error display, a white horizontal line from Picture Element Pulse 0 to 128 appears every 192 lines at lines 0, 192, 384, 576, etc. These lines can be used to locate data within a particular frame.

3.4.3.4 Annotation Code

The annotation code is contained in a band (40 lines by 4096 Picture Element Pulses) starting on the line following normal picture frame end (Figure 3-11). The band is divided into 128 bits. Each bit is 32 Picture Element Pulses wide. A one is indicated by a vertical bar 32 lines high and 16 Picture Element Pulses wide. A zero is indicated by a vertical bar 8 lines high and 16 Picture Element Pulses wide.

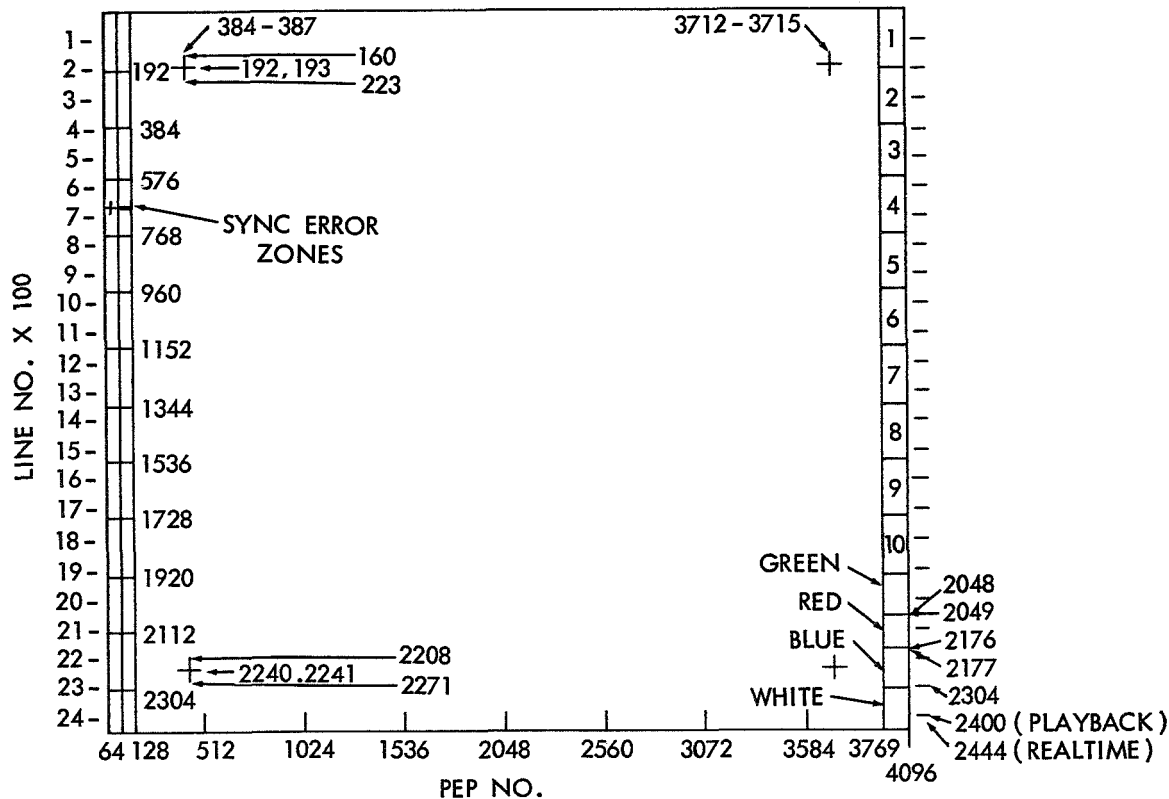


Figure 3-10. Ground Induced Displays

Bit positions 2 through 40 contain day and hours, minutes and seconds (GMT) of the normal picture frame end time in a BCD format. Bit positions 45 through 64 contain three 6 bit binary numbers representing the high voltage monitor voltage on the red, blue, and green photomultiplier tubes (PMT), respectively. Actual monitor voltage is given by the equation $V_m = (\text{Value}) (40/511)$ volts. Bit positions 69 through 79 contain three 3 bit binary numbers representing the ground station video gain in the red, blue and green channels, respectively. Actual gain in db is twice the coded value. Bit position 84 indicates scan mode of the picture. Zero indicates NORMAL mode and one indicates BACK TO BACK. Bit position 89 indicates the number of sweeps per camera step. One indicates three sweeps per line step and zero indicates one sweep per line step. Bit position 94 indicates spacecraft gain. A one indicates two traveling wave tubes (TWTs) "on" and a zero indicates one TWT "on".

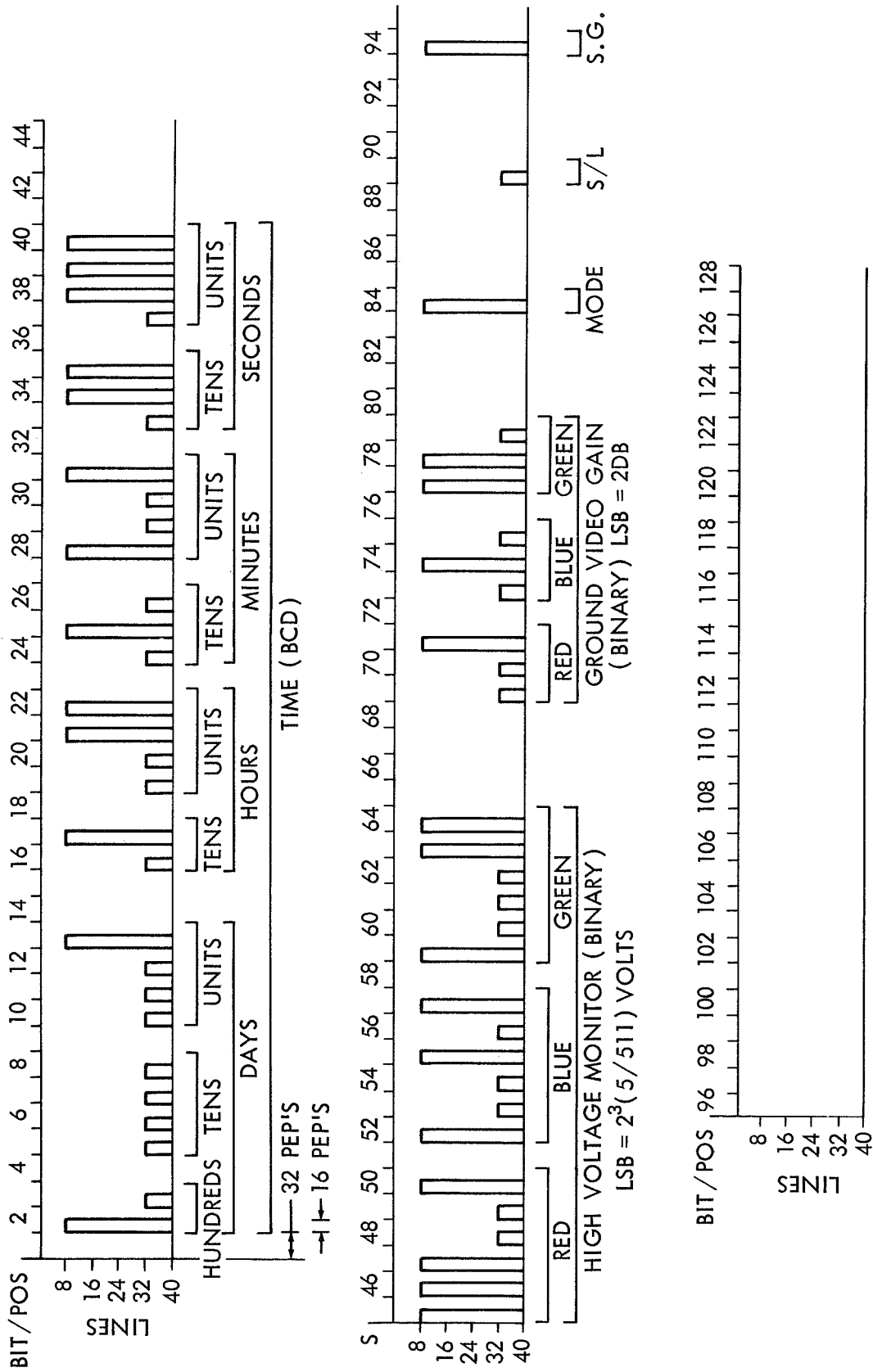


Figure 3-11. Annotation Code

As an example, the annotation code shown in Figure 3-11 is decoded as follows:

GMT

Day	201
Hours	13
Minutes	29
Seconds	37

High Voltage Monitor

Red	$57 \times 40/511 = 4.46 \text{ v}$
Blue	$37 \times 40/511 = 2.90 \text{ v}$
Green	$35 \times 40/511 = 2.74 \text{ v}$

Ground Video Gain

Red	$1 \times 2 = 2 \text{ db}$
Blue	$2 \times 2 = 4 \text{ db}$
Green	$6 \times 2 = 12 \text{ db}$

Scan Mode	BACK TO BACK
Sweeps/Line	One
Spacecraft Gain	High Power

3.5 MAGNETIC TAPE RECORDING

3.5.1 Digital Recording

Three analog, time division multiplexed, color signals are normally generated with each revolution of the satellite. The signals are demultiplexed on the ground and sent through separate analog to digital converters. The converted signals are then stored in a buffer which is unloaded during the back scan of the camera in sequential order to the digital input of the photofacsimile recorder and to the on-line digital tape recorder. Two tape transports operating in sequential mode, with automatic switching between transports, are used to record uninterrupted data on three 3600 foot reels of 1.0 mil tape rated for 800 bpi for each color picture. A count of the number of records going onto each tape is kept in order to assure adequate and timely switching of transports prior to the end of tape on any one reel.

During playback, the three tapes must be placed on the transports in the sequence they were recorded. End-of-file marks are used in determining the start time for the alternate transport and the rewind for the on-line transport.

Digital expansion of 4 or 8 times is possible by playing back the magnetic tape into the core memory and then unloading the core memory into the photofacsimile recorder.

3.5.2 Analog Recording

These tapes, as well as the digital tape, are not easily read by conventional equipment. Queries relative to their nature and format should be directed to:

Dr. Verner E. Suomi
Space Science and Engineering Center
University of Wisconsin
Madison, Wisconsin 53706

3.6 DATA DOCUMENTATION AND PROCESSING

3.6.1 Development of Negatives

Each Ektacolor negative received at the Nimbus ATS Data Utilization Center (NADUC) Photographic Laboratory is processed in accordance with Kodak C-22 Processing instructions.

Ektacolor negatives are then sent to the Data Processing Section of the NADUC at Goddard Space Flight Center, Greenbelt, Maryland, for identification and labeling.

3.6.2 Identification and Labeling

Each negative received in the Data Processing Section of the NADUC is identified and labeled. Identification is made by comparing the time annotation on the negative with the time noted on the data transmittal form and on the ATS Operations Control Center Event Log. Pictures are assigned a sequence number indicating the daily sequence in which the data were acquired from the satellite.

A label identifying the negative as "NASA ATS-III," is placed to the right of the gray scale. The label contains the following information:

NASA ATS III 20 NOV 67 123456Z 20 T

Day, month and year of data; i. e. , 20 NOV 67.

Time of the last line of video (Frame End Time) in hours, minutes and seconds Z (GMT); i. e. , 123456Z.

Sequential picture number of the GMT day; i. e. , 20 indicates the 20th picture acquired during the GMT day.

A code indicating camera mode, step ratio and color filters used; i. e. , T indicates BACK TO BACK scan mode, one step per one revolution and all color filters used to generate data.

Table 3-2 contains the operational codes and their meanings.

Table 3-2
Operational Codes

Color Sensor	1 Step/ 1 Revolution		1 Step/ 3 Revolution	
	Normal	Back to Back	Normal	Back to Back
All Colors	N	T	n	t
Red	R	X	r	x
Blue	B	Y	b	y
Green	G	Z	g	z

3.6.3 Gridding

Multicolor Spin Scan Cloud Camera pictures are not automatically gridded; i. e., electronic grid points are not mixed with the video data. Instead, separate latitude-longitude grids, including key geographical outlines, are computer generated and subsequently exposed on transparent film. Actual superposition of the appropriate grid to the picture must be done manually by the user. However, NADUC personnel verify that the grids can be properly fitted to pictures prior to grid dissemination. Grid fit will be verified on at least three pictures each day commencing with the day "engineering evaluation and check-out" accepts the display as adequate. It is assumed that the character of the pictures will not change during the period.

The technique used by the NADUC to verify grid fit is recommended to most users and will be presently described.

Figure 3-12 is an example of the ATS-III grid used with the MSSCC and IDCS pictures. The grid is drawn for an altitude 19325 nautical miles (35815 km) and a subsatellite point at 0.0° latitude and 47.0° W longitude. The latitude-longitude grid interval is everywhere 5° except at latitudes higher than 60° where the interval is 10° . The highest latitude line drawn is 70° . The program incorporated a test that prohibits line drawing if the lines can not be clearly resolved. Therefore, grid lines do not appear between the horizon circle and 72° of great circle arc from the subsatellite point. The center of the grid (0.0° latitude and 45° W longitude) is indicated by a small hatch mark.

Additional grids are used when the satellite subpoint is located at other than its nominal position. Grids have been produced at 1° intervals from 40° W to 110° W longitude. This range is more than sufficient to accommodate the limits of ATS-III drift about any programmed station between 108° W and 43° W longitude.

Grids have not been generated for the meridional motion component of the subpoint since this motion is less than 0.5° , but such grids can be generated if the requirement arises. Appropriate grids will be included with film orders.

Grids have not been drawn to accommodate changes in perspective caused by deviations in satellite attitude. Satellite yaw errors can be compensated by a simple rotation of the grid about the subpoint. Pitch errors can be compensated by "slipping"

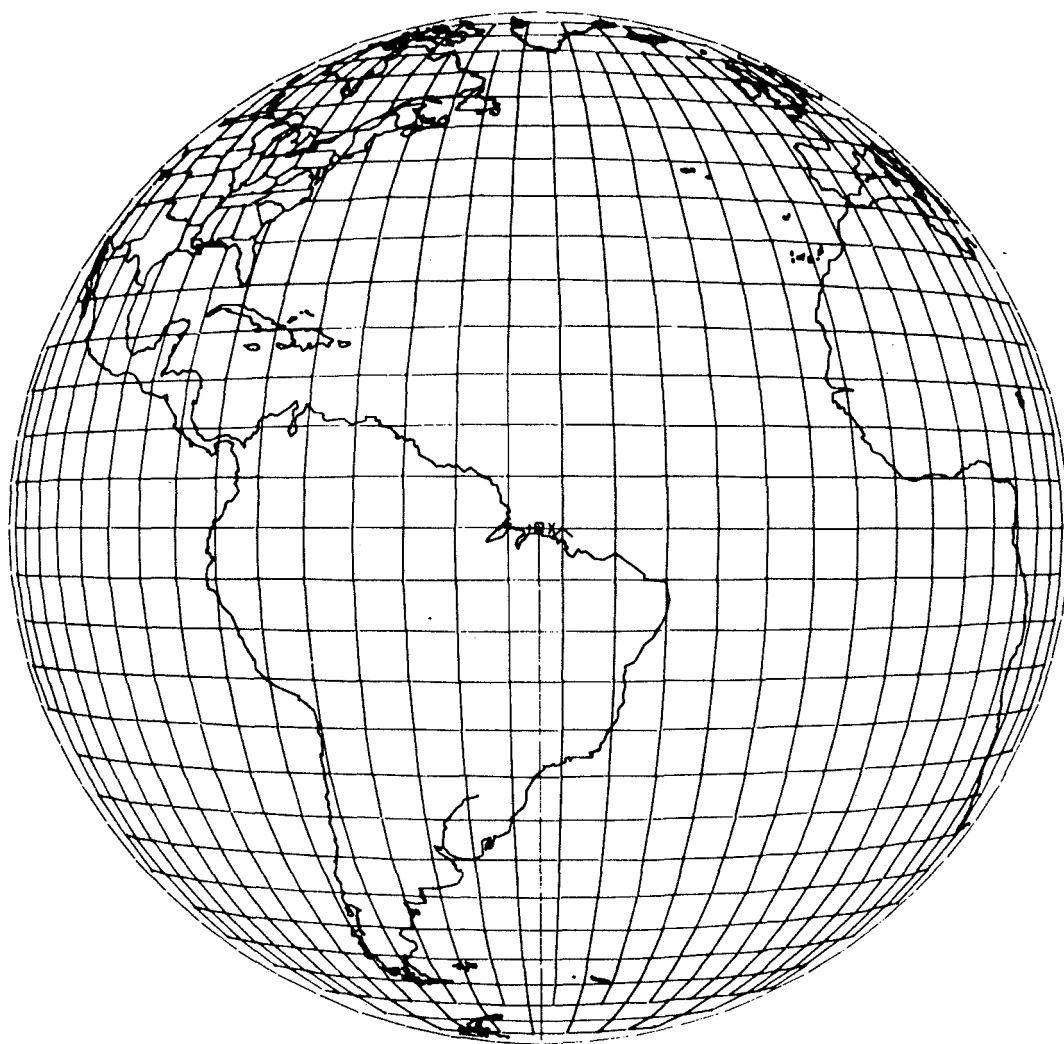


Figure 3-12. ATS-III MSSCC/IDCS
5 Degree Interval at 35815 km 19325 nm Subpoint 0.00N 47.00W
(10 Degree Interval above 60°)

the grid north or south. Errors resulting from "grid slipping" procedures are minimal due to the very small pitch angles encountered.

Grid fit accuracy is usually readily attainable to better than 1° of great circle arc (60 nm) in the region of the subsatellite point and 3° of arc near the horizon. Gridding accuracy on the order of 5-10 nm can be attained in localized areas where coastlines and/or conspicuous land masses are visible in the picture. Special techniques and/or calculations will also yield gridding accuracies in this range.

The grid fitting and/or grid verification technique used at the NADUC is as follows:

- a. An ATS-III MSSCC picture with clearly identifiable horizons, both east and west, (near satellite noon, 1500Z at 45°W or 1820Z at 95° W) and obvious land marks is enlarged to an image earth diameter of 7.08 inches. The earth diameter dimension

is chosen, in this case, by consideration of factors such as type of equipment available, desired gridding accuracy, ease of handling, quantity of data to be gridded and manpower and/or time available. It is also a convenient image size for reproduction on standard 8 x 10 inch photographic papers.

b. The appropriate ATS-III grid is selected on the basis of the satellite subpoint. The user may use the longitude noted in the ATS-III Meteorological Data Catalog to obtain the appropriate satellite subpoint and subsequent corresponding grid.

c. An appropriately enlarged grid is placed over the MSSCC picture so that the grid horizon is superposed precisely on the MSSCC picture horizon (grid horizon diameter of 7.08 inches).

d. The grid (or the picture) is rotated until the appropriate geographical outlines on the grid fit the geography displayed in the picture. Two separated landmarks are required for a correct rotational fit; however, three widely separated landmarks greatly improve the confidence of grid fitting. ATS-III MSSCC pictures contain a multitude of recognizable landmarks, thereby easing the grid fitting problem.

3.7 DETERMINATION OF TIME

3.7.1 Picture Start Time

Start time of each picture can be calculated by computing the time required to generate the picture, (number of scan lines/satellite spin rate) and subtracting the generation time from the picture end time noted in the annotation code and on the label.

3.7.2 Scan Line Time

Time of any given scan line (± 5 lines) can be determined by adding an increment of time to picture start time or by subtracting a corresponding increment of time from the picture end time. The time increment to be added to picture start time is derived by dividing the scan line number by the satellite spin rate; i. e., scan line number 870/89.9 rpm (spin rate) = 9.677 minutes or 9 minutes 41 seconds. A corresponding time to be subtracted from picture end time is derived by subtracting the scan line number, 870, from the total number of scan lines (2400) and dividing the remainder by the spin rate of the satellite; i. e., $1530/89.9 = 17.019$ minutes or 17 minutes 1 second.

3.7.3 Picture Element Pulse Time

Each scan line in the image area contains 4096 Picture Element Pulses and is scanned out in 28.8 milliseconds when the satellite spin rate is 100 rpm. Therefore, the time interval between pulses can be computed by dividing the time required to scan one line by 4096 (number of Picture Element Pulses) and multiplying the quotient by the number of pulses in the desired span.

3.7.4 Satellite Local Time

Picture End Time (GMT) is indicated on each picture. Local Mean Time at the satellite can be determined by subtracting four minutes for each degree of longitude west of Greenwich. Longitude can be determined from ephemeris data or by extrapolating the longitude at the drift rate indicated in the orbital elements section of the ATS-III Meteorological Data Catalog.

3.7.5 Longitudinal Time Elsewhere in the Picture

Picture End Time at any longitude other than the longitude of the subsatellite point can be computed by adding four minutes to the indicated end time for each degree west of the subsatellite point, or by subtracting four minutes from the indicated end time for each degree east of the subsatellite point.

3.8 ATTITUDE EFFECTS

The satellite attitude cycle was described in Section 2.4. Yaw produces an overall rotation of the picture, while pitch moves the earth up or down in the frame. An upward displacement of the earth in the picture indicates positive pitch. The effect of a small pitch deviation is much larger than the similar geometric effect resulting from north-south subpoint excursions. Therefore, compensation for the latter may be included in any pitch compensation procedures.

Methods for estimating spacecraft attitude are as follows:

3.8.1 Pitch Determination

a. Select a picture with sufficient landmarks to enable a good grid fit (Section 3.6.3). Determine the location of the subsatellite point in the image. Locate the central scan line (number 1200). The seventh elongated line in the "sync error" display (Figure 3-10) locates line number 1152. If scan line 1200 is south of the subsatellite point, then pitch is positive.

Count number of lines between subsatellite point and line number 1200. Use Table 3-3 to determine magnitude of pitch by adding values assigned to the hundreds, tens and units digit of number of lines between 1200 and subsatellite point; i. e., 128 lines would yield:

$$100 = 0.7475^{\circ}$$

$$20 = 0.1495^{\circ}$$

$$8 = 0.0598^{\circ}$$

$$128 = 0.9568 \text{ pitch}$$

Table 3-3
Lines Pitch Values

Lines	Degrees	Lines	Degrees	Lines	Degrees
100	0.7475	10	0.07475	1	0.007475
200	1.4950	20	0.14950	2	0.014950
300	2.2425	30	0.22425	3	0.022425
400	2.9900	40	0.29900	4	0.029900
500	3.7375	50	0.37375	5	0.037375
600	4.4850	60	0.44850	6	0.044850
700	5.2325	70	0.52325	7	0.052325
800	5.9800	80	0.59800	8	0.059800
900	6.7275	90	0.67275	9	0.067275
1000	7.4750				

b. A second method of determining pitch is to use the northern or southernmost latitude (whichever is the lesser) as a measure of pitch.

Select a picture with sufficient landmarks to enable a good grid fit (Section 3.6.3). Note the latitude, at the meridian of the subsatellite point, at which the earth disc is cut off by the frame boundary. A northern latitude cutoff is the result of positive pitch. Use Figure 3-13, Latitude Pitch Relation, with latitude noted and read pitch angle; i. e., 60° latitude results from 0.9° pitch.

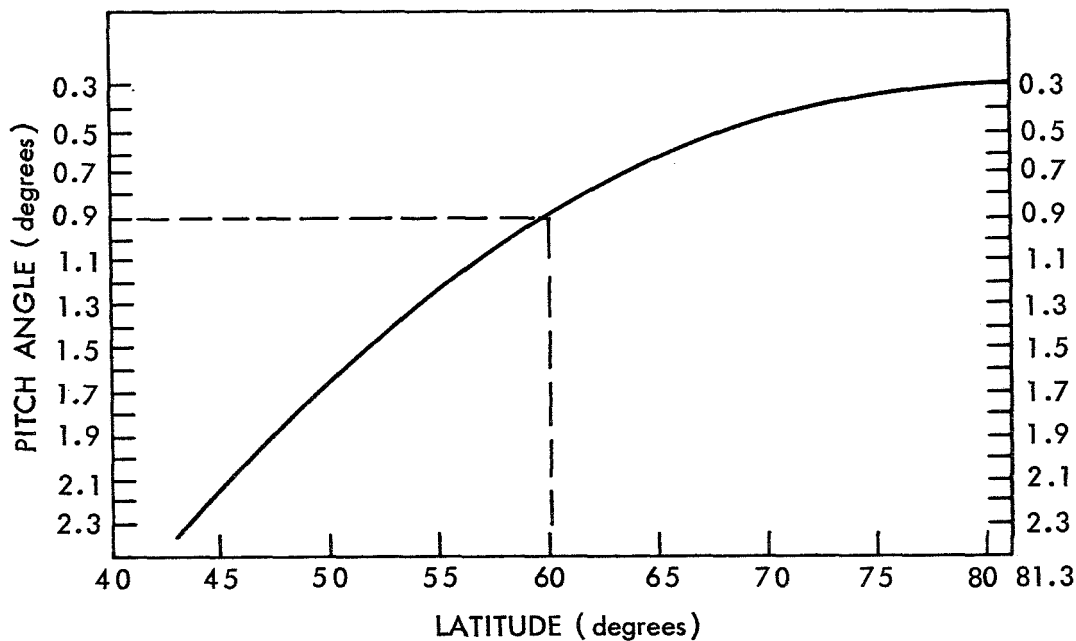


Figure 3-13. Latitude-Pitch Relation

3.8.1.1 Maximum Pitch Determination

The numerical value of maximum pitch for small angles may be estimated by finding the root mean square of the pitch and yaw angles. Alternately, it may be found desirable to fit sequence pitch and/or yaw measurements to 24-hour sine curves, with the yaw curve lagging the pitch curve by 90° or 6 hours.

3.8.1.2 Time of Maximum Pitch

The time (Z) at which maximum positive pitch occurs can be found either from the sine-wave fit, or can be estimated from:

$$T_o = \frac{24}{360} \arctan \frac{\text{yaw}}{\text{pitch}} + T_p$$

Where T_p is the time in hours of the picture from which the angles were estimated.

3.8.2 Yaw Determination

Select and fit grid to picture (Section 3.6.3). Observe the angle between the grid equator and the direction of the scan lines. This is the yaw angle. When the grid appears rotated counterclockwise with respect to the scan lines, the yaw is positive.

3.8.3 Attitude Computation

Once the amplitude and time of maximum pitch have been established, the pitch and yaw of the spin axis at any one time can be estimated from:

$$\text{pitch} = \text{pitch (max)} \cos 360/24 (T - T_o)$$

$$\text{yaw} = \text{pitch (max)} \sin 360/24 (T - T_o)$$

These relations may be useful in estimating attitude adjustment to be made in gridding pictures with only part of the earth disc illuminated and/or poor landmark definition. However, care should be taken that attitude extrapolations are not made for more than a few days or through an intentional attitude change. Attitude maneuver times are listed in the data catalogs.

It should be noted that the techniques and relations given are approximate and only valid for the normally small attitude excursions of the satellite.

3.9 DATA CLASSIFICATION

Two or three MSSCC pictures each day are examined by a professional meteorologist experienced in meteorological satellite picture interpretation. A broad classification of data content with respect to meteorological and/or geographical features is made. The geographic zoning system used is displayed in Figure 3-14. These data

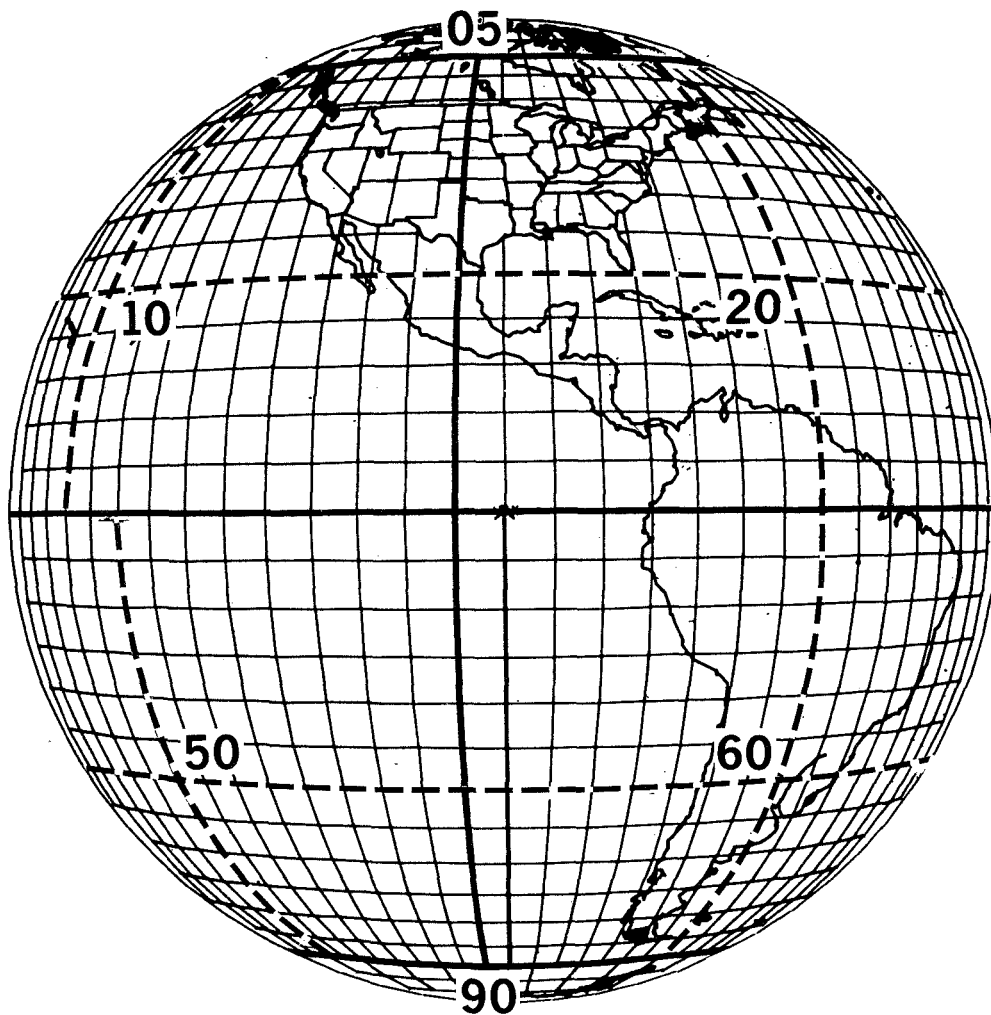


Figure 3-14. Geographical Zones

classifications are published in the data catalog. Final or comprehensive classification is a product of research and is, of course, left to the user. See Volume I, Part I, Appendix A of The Meteorological Data Catalog for the Applications Technology Satellite published by NASA, October 1967 for data classifications.

3.10 ARCHIVING AND STORAGE

Individual archival quality MSSCC pictures are copied in black and white in chronological order by Greenwich day and daily sequence number. A reel of MSSCC is

about 125 feet long and 5 inches wide. Each positive or negative transparency reel includes a family of suitable grids which are identified by subpoint for which each grid was generated. Black and white archival data will be stored at:

National Weather Records Center
Environmental Science Services Administration
Federal Building
Asheville, North Carolina

Color data are retained at the:

Nimbus/ATS Data Utilization Center
Goddard Space Flight Center
Greenbelt, Maryland

SECTION 4

THE IMAGE DISSECTOR CAMERA SYSTEM

4.1 GENERAL CAMERA DESCRIPTION

The Image Dissector Camera (Figure 4-1) consists of optical image forming, electron image forming and sun sensing elements. The camera produces a scan line with each revolution of the spacecraft. Direction of scan, north to south or west to east, is determined by ground command. 1328 north to south scan lines provide an earth coverage from 50°N to 50°S latitude and from 50°W to 50°E of the subsatellite point in the longitudinal (north to south) scan mode (Section 4.1.4.1). West to east scan lines increase the field of view to include the limbs of the earth (Section 4.1.4.2). Ground resolution is approximately 4.2 nautical miles at the subsatellite point.

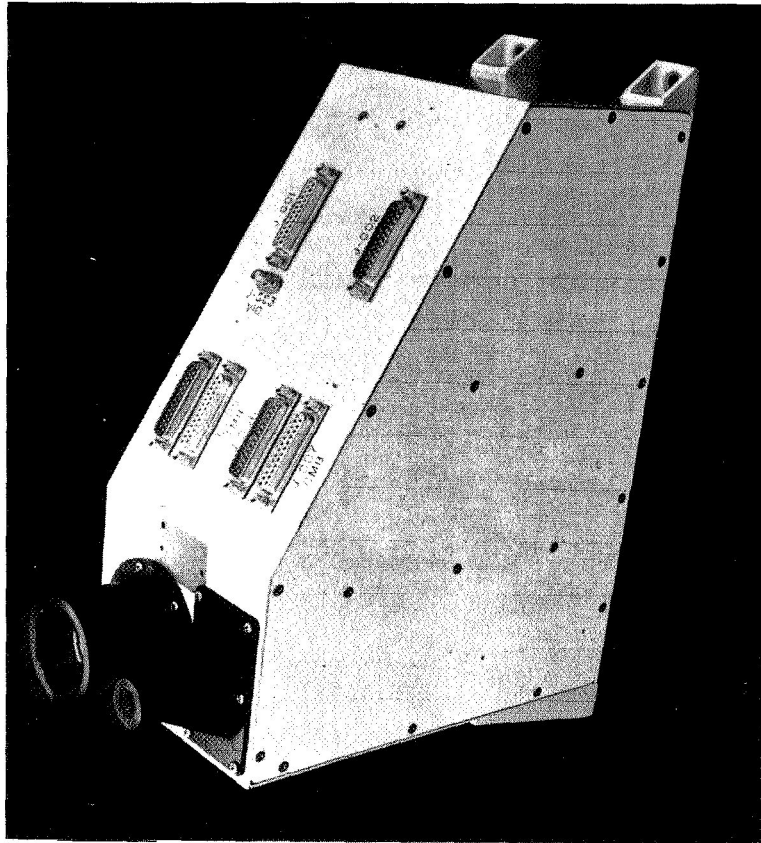


Figure 4-1. The Image Dissector Camera

The Image Dissector Camera System has a dynamic range of 100 to 1, which provides a quality image with scene brightness levels ranging from 10,000 to 100 foot-lamberts.

4.1.1 Optics

The Image Dissector Camera System uses a specially designed 4.92 mm f/2 lens. The lens is a fixed focus assembly with a diagonal field of view of 20.5°. Lens resolution (measured in a flat plane perpendicular to the optical axis) is 100 lines/mm on axis and 80 lines/mm in the corner. Distortion is less than one percent.

The lens is protected from radiation damage by a 0.187 inch thick quartz window mounted immediately in front of the lens. A minus blue interference filter deposited on the front surface of the quartz window reduces haze effects and enhances detail.

A small capping device, located between the lens assembly and the face of the Vidisector (a nonstoring photoemissive image dissector tube) protects the photocathode from unnecessary degradation when the photocathode is not in use. This shutter is solenoid activated only during active framing periods.

A sun sensor is incorporated into the system to provide an accurate reference signal to the synchronizing logic. The sun pulse is also included in the composite video output to facilitate ground equipment synchronization.

4.1.2 Synchronizing System

Synchronization of the camera clock with satellite spin rate is controlled on-board the satellite. The heart of the system is a variable crystal controlled oscillator which generates the same number of pulses with each revolution of the satellite for any spin rate from 60 to 140 rpm.

Once initial phasing of the camera is accomplished by ground command, on-board counters use the clock pulses for: synchronization of the camera sweep initiation with the earth viewing; and updating of the sun-satellite-earth angle.

4.1.3 The Sensor

The image sensing element of the IDCS is a one inch Vidisector tube with an S-11 photocathode, a 0.0007 inch scanning aperture and a twelve stage electron multiplier. An optically focussed image is directed onto the face of the photoemissive cathode which has been masked to leave only a narrow strip of active area exposed. This exposed active area is oriented 45° from the vertical. Light particles impinging on the photocathode cause electrons to be emitted in direct proportion to the applied light intensity. Emitted electrons are then propelled by an electronic field to the aperture plane. After passing through the aperture, the signal current is built up to a value 10^6 to 10^7 times the initial value by the twelve stage multipliers.

4.1.4 Scan Line Generation

The Image Dissector Camera System makes use of the west to east spin of the satellite as one of two components required in the generation of each scan line. The second component is the rate at which the active area (the 45° strip) of the photocathode is scanned.

4.1.4.1 Longitudinal Scan (Primary Mode)

The longitudinal scan mode requires a complete scanning of the photocathode active area (Section 4.1.4) with each revolution of the satellite. This scanning (plus satellite spin) produces a north to south scan line of the earth. The scan line is initiated following a sync pulse at time, T_0 , and is completed at time, T_n . The time required to scan the exposed area of the photocathode is the same as the time required for the satellite to rotate through 14.6° (the side to side field of view of the lens). Thus, the satellite rotation and the scan of the photocathode produce a north to south scan line ($P_0 - P_n$) of the earth with each revolution (Figure 4-2). Successive scan lines are produced by initiating the scan line at a time interval greater than that required for the satellite to complete one revolution. Figure 4-3 shows nominal earth coverage in the longitudinal scan mode.

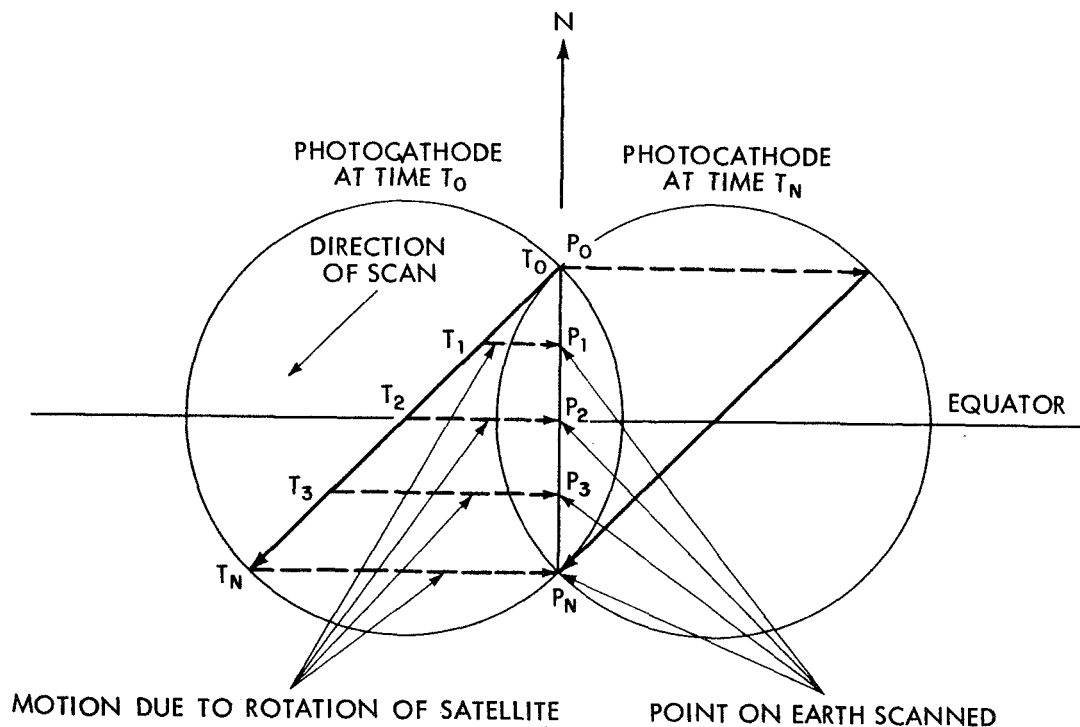


Figure 4-2. Longitudinal Scan (Primary Mode)

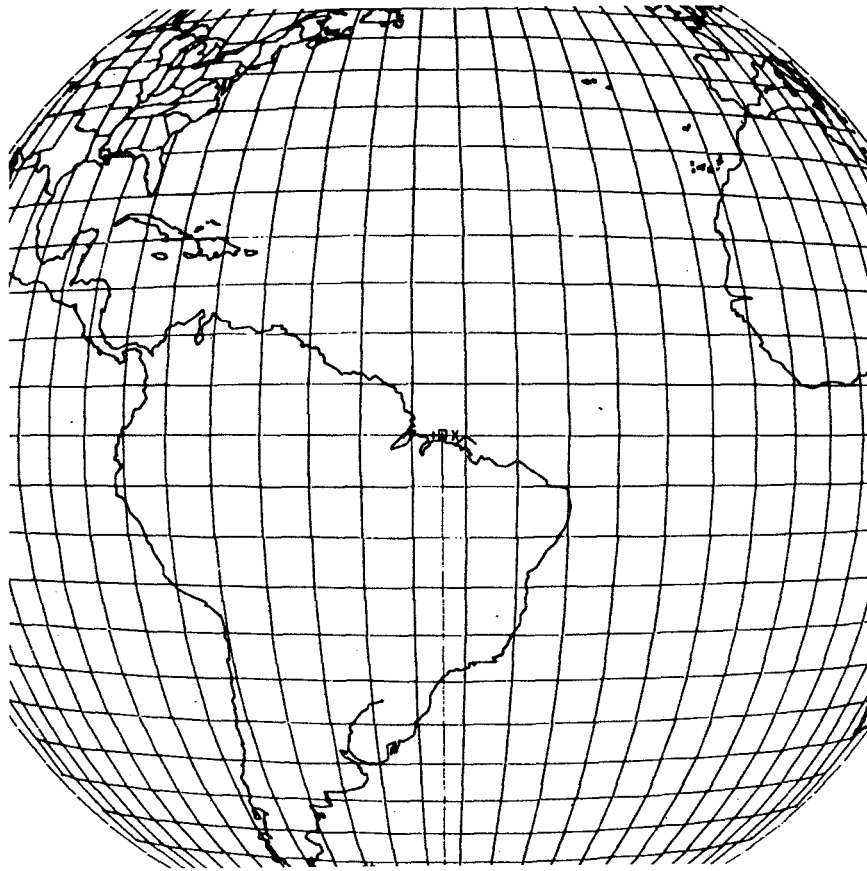


Figure 4-3. IDCS Nominal Earth Coverage SSP 47° W

4.1.4.2 Latitudinal Scan (Secondary Mode)

The latitudinal scan mode requires the scanning of the diameter of the photocathode in 1328 increments during the generation of a complete picture. Each increment is retained for one revolution of the spacecraft causing line scanning to result from spin motion (Figure 4-4). Figure 4-3 displays nominal earth coverage of original configuration. A modification has been made in the ground equipment to include video presentation from east to west horizons. Figure 4-5 displays earth coverage after modification. It should be noted that when the satellite is in nominal attitude orientation, a line of sampled earth data is tangent at the meridian containing the satellite subpoint, except for the scan which observes data on the equator.

4.1.5 Frame Generation

The IDCS can generate frames in either an automatic or manual mode. The automatic mode permits generation of successive frames until commanded to stop. The time interval between frames is greater than 1.41 minutes but less than 2.82 minutes. The manual mode permits generation of single frames by command only.

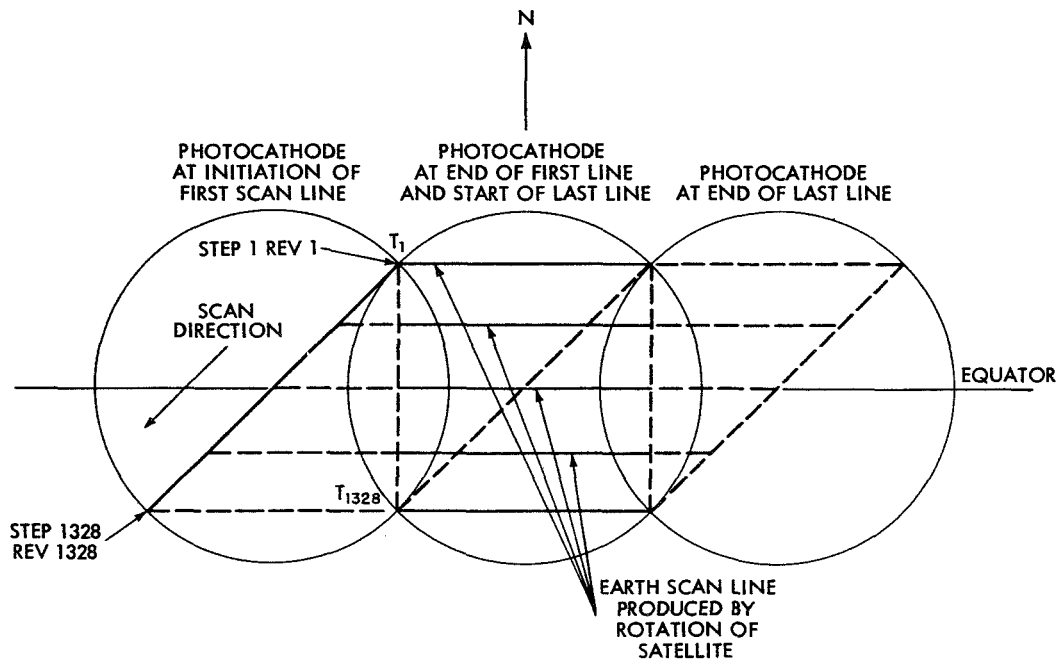


Figure 4-4. Latitudinal Scan (Secondary Mode)

4.2 CAMERA OPERATION

The IDCS can be operated in any one of the following four ways:

- a. Longitudinal scanning with automatic frame recycle. The IDCS generates north-south scan line pictures until commanded to stop.
- b. Longitudinal scanning with manual frame recycle. The IDCS will generate only one north-south scan line picture and then drop into a standby status awaiting command to complete another picture.
- c. Latitudinal scanning with automatic frame recycle. Same as in "a," except scan line is in a west to east direction.
- d. Latitudinal scanning with manual frame recycle. Same as in "b," except scan line is in a west to east direction.

4.3 TYPES OF DATA

4.3.1 Photographic Data

The video data are received at the ground stations and are used to produce a photographic image on 4 x 5 inch Polaroid Type 55 P/N film (a negative image on a transparent

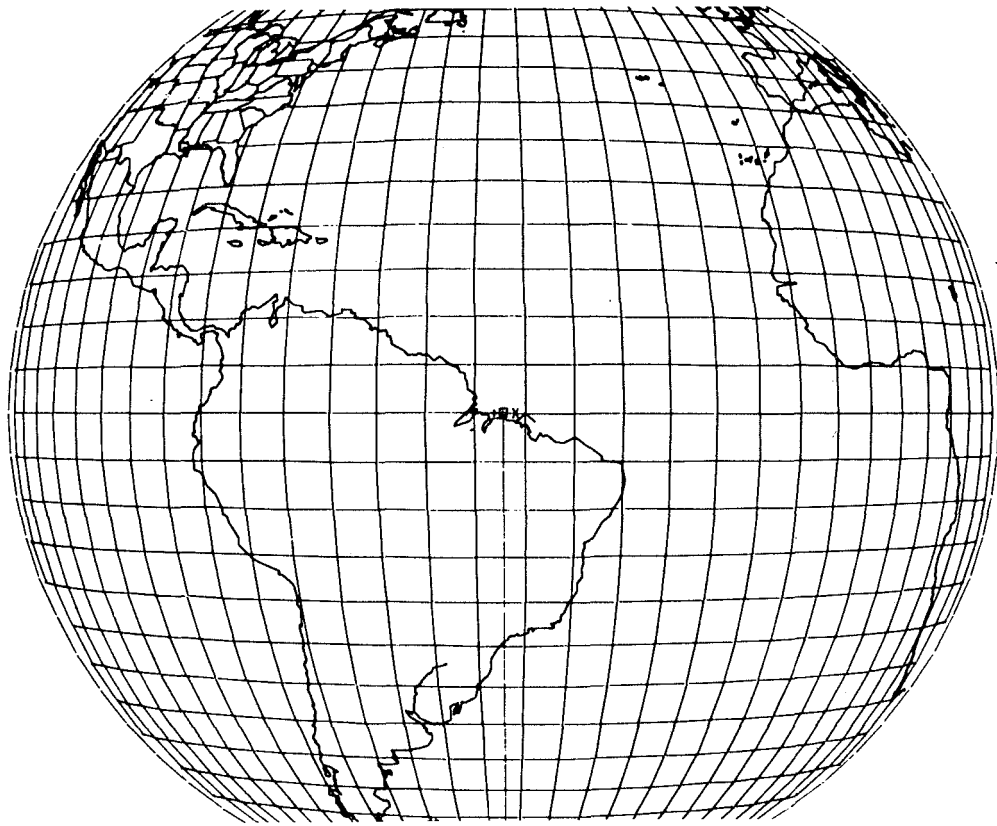


Figure 4-5. IDCS Nominal Earth Coverage
After Modification (Latitudinal Mode) SSP 47° W

film base and a positive image on an opaque base). When appropriate equipment becomes available, the data may be produced on 70 mm negative film.

4.3.2 Analog Tape Data

Data are recorded on magnetic tape at the Rosman and Goddard sites. The magnetic tape has a bandwidth of 125 KHz at 30 inches per second. Fourteen tracks, seven forward and seven reverse, are used for recorded data.

4.4 METEOROLOGICAL DATA ACQUISITION

Meteorological data are acquired at the Rosman, North Carolina site and are relayed to the Nimbus Data Handling System (NDHS) at Goddard Space Flight Center, Greenbelt, Maryland. Should the communication lines not be available at the time of data acquisition, the Rosman site will record the data on tape for subsequent playback to Goddard.

Data are received by the NDHS and are fed into an Electronic Image System (EIS) Photofacsimile Recorder which exposes a 4 x 5 inch Polaroid (type 55 P/N). The image

area is approximately 3.27 x 3.24 inches. The earth diameter is a nominal 3.25 inches in the latitudinal mode (3.21 inches prior to modification) and 3.90 inches corner to corner in the longitudinal mode.

Processed negatives are received in the NADUC at the end of each operating day. Transmittal forms accompany each negative with complete data identification as to time and mode of operation.

Strict quality control standards and procedures are maintained throughout the photographic and data handling processes.

4.4.1 The Photofacsimile Recorder (IDCS)

The photofacsimile recorder receives analog video from the video processor and timing signals from the time code processor. Video information is displayed on a high resolution five inch CRT. Light emitted by the CRT phosphor is divided into two components by a half-silvered mirror. One component (80% of the light) is diverted to the film and the remainder (20% of the light) is directed to a photomultiplier (Figure 4-6). The photomultiplier measures light output and compares it with brightness indicated by the incoming video signal. When the two values coincide, the CRT beam is turned off and the entire process recycled for the next presentation. Exposure capability of the recorder is accurate to about two percent of the video level.

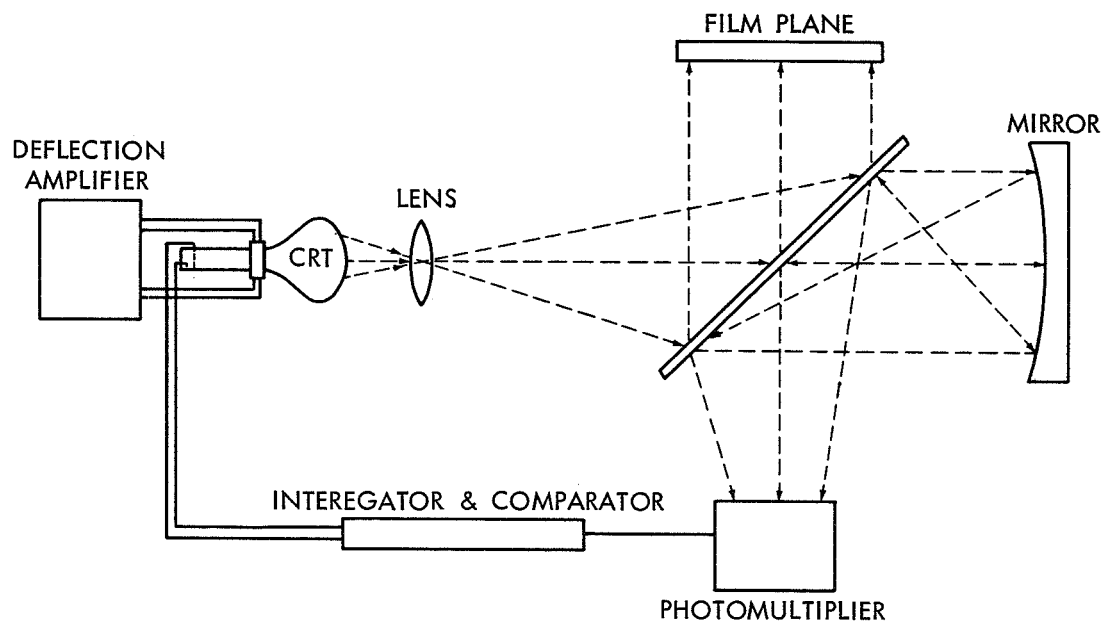


Figure 4-6. EIS Beam (IDCS)

4.4.2 Sun Sync Line

A ground induced delayed sun sync line is added aperiodically to certain data (Figure 4-7). This display appears diagonally across the data for engineering evaluation.

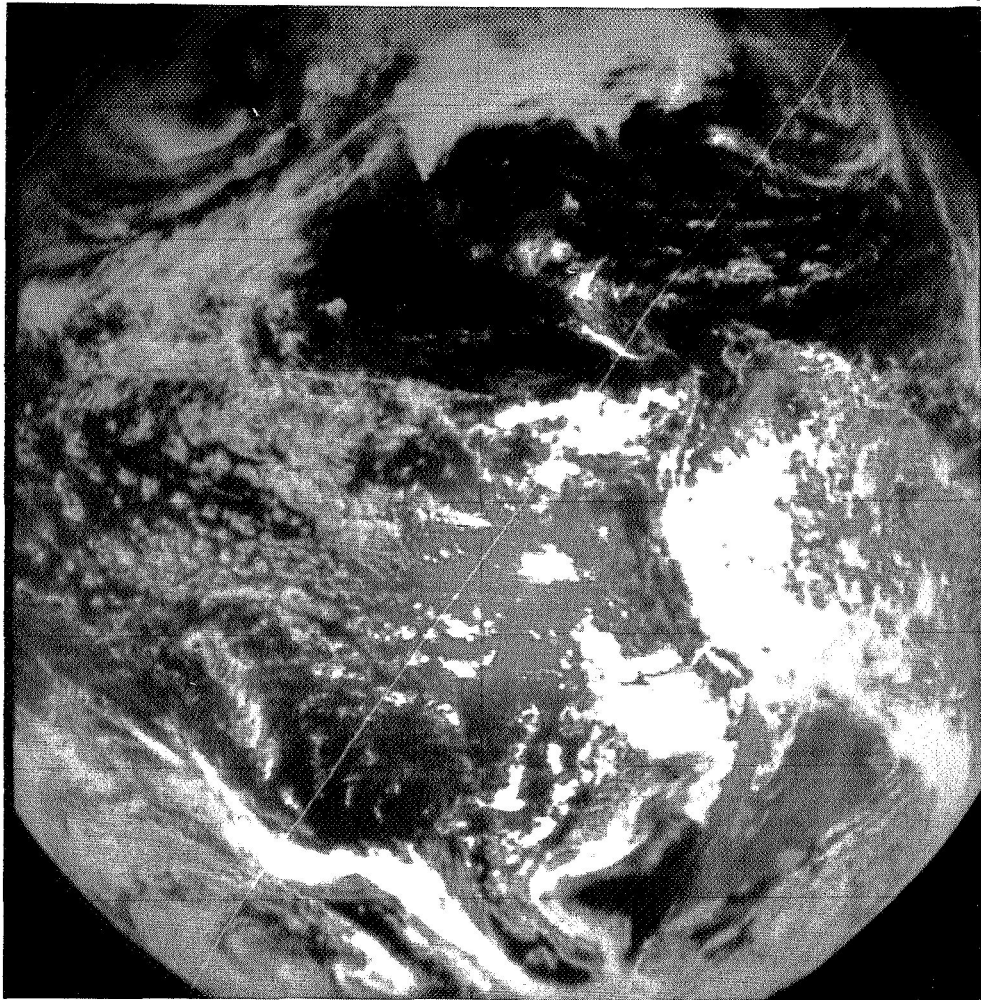


Figure 4-7. Sun Sync Line

In those pictures generated in the longitudinal scan mode, the slope and curvature of the sync line are measurements of spacecraft spin rate and camera spin synchronization. Changes in slope represent synchronizer error corrections. The slope of the display in those pictures generated in the latitudinal scan mode is indicative of the frequency of the Time of Day corrections.

4.4.3 Density Levels

Negatives are exposure controlled to yield uniform density ranges between pictures. Input voltages vary from 0.0 to 1.0 to produce black, white and intermediate gray levels.

4.5 DATA DOCUMENTATION AND PROCESSING

4.5.1 Identification and Labeling

Each negative received in the Data Processing Section of the NADUC is identified and labeled. Identification is made by comparing the date and sequence number noted on the negative with identical data noted on the transmittal form. A comparison is also made with the ATS Operations Control Center Event Log to verify order of acquisition.

A label identifying the negative as ATS-III IDCS is placed beneath the data. The label contains the following information:

ATS-III IDCS 20 Nov 67 123456Z PA 13

The day, month and year; i. e. , 20 Nov 67

The time of the first line of video (Frame Start Time) in hours, minutes and seconds Z (GMT); i. e. , 123456Z.

The mode of operation; i. e. , P (Longitudinal scan mode) or S (Latitudinal scan mode) and A (Automatic frame recycle) or M (Manual frame recycle).

The sequential picture number of the GMT day; i. e. , 13 indicates the 13th picture acquired that GMT day.

4.5.2 Gridding

Image Dissector Camera System pictures are not automatically gridded; i. e. , electronic grid points are not mixed with the video data. Instead, separate latitude-longitude grid points which include key geographical outlines, are computer generated and then automatically plotted and displayed for subsequent photography. Actual superposition of the appropriate grid to the picture must be done manually by the user. However, NADUC personnel do verify that the grids can be properly fitted to pictures prior to grid dissemination. Grid fit is verified on at least three pictures each day. It is assumed that the character of the pictures does not change during the interval between verifications. Grid fit accuracy is usually readily attainable to better than 1° of great circle arc (60 nm) in the region of the subsatellite point and 3° of great circle arc at the horizons. Gridding accuracy on the order of 5-10 nm can be attained in localized areas when coastlines and/or conspicuous land masses are visible in the picture. Special techniques and/or calculations will also yield accuracies in this range.

Figure 4-8 is an example of the ATS-III grid used with the IDCS picture (grid displayed is undistorted). The grid is drawn for an altitude of 19325 nm (35815 km) and a subsatellite point of 0.0° latitude and 95.0°W longitude. An earth disc is shown, however, the earth horizon as seen from synchronous heights extends to 81.3° rather than 90°.



Figure 4-8. ATS-III MSSCC/IDCS
5 Degree Interval at 35815 km 19325 nm Subpoint 0.00N 95.00W
(10 Degree Interval above 60°)

The latitude-longitude grid interval is everywhere 5° except at latitudes higher than 60° where the interval is 10°. The highest latitude line drawn is 70°. The grid generation program incorporates a test to eliminate drawing data which cannot be resolved. Therefore, a gap appears between the earth disc and 72° of great circle arc about the subsatellite point.

4.6 DETERMINATION OF TIME

4.6.1 Scan Line Time

Time of any given scan line (± 5 lines) can be determined by adding an increment of time to Picture Start Time. The time increment is derived by dividing the scan line number by the satellite spin rate; i. e., scan line number 870/89.9 rpm (spin rate) = 9.677 minutes or 9 minutes 41 seconds. The time increment when added to Picture Start Time yields time of line scan.

4.6.2 Picture Element Pulse Time

Each scan line, from edge to edge of the frame, contains 4096 Picture Element Pulses and is scanned out in 28.8 milliseconds (satellite spin rate 100 rpm). Therefore, the time interval between pulses can be computed by dividing the time required to scan one line by 4096 (number of PEPs) and multiplying the quotient by the number of pulses in the desired span. This time is then added to the scan line start time.

4.6.3 Satellite Local Time

Picture Start Time (GMT) is indicated on each picture. Local Mean Time can be determined by subtracting four minutes for each degree of longitude west of Greenwich. Longitude can be determined from ephemeris data or by extrapolating the longitude at the satellite drift rate indicated in the orbital elements section of the ATS-III Meteorological Data Log.

4.6.4 Longitudinal Time Elsewhere in the Picture

Picture Start Time at any longitude other than the longitude of the subsatellite point (SSP) can be computed by adding four minutes to the indicated start time for each degree west of the SSP, or by subtracting four minutes from the indicated start time for each degree east of the SSP.

4.7 ATTITUDE EFFECTS

4.7.1 Pitch, Roll and Yaw

The satellite attitude cycle was described in Section 2.4. As can be approximated from the picture making geometry, any departure from desired attitude can be discerned in the earth disc. Yaw produces an overall rotation of the picture, while pitch moves the earth up or down in the frame. A decrease in latitudinal coverage in the northern hemisphere indicates positive pitch. The effect of small pitch deviation is much larger than the geometrically somewhat similar effect of north-south subpoint excursions. Therefore, compensation for the latter may be included in any pitch compensation procedures.

In a spin stabilized system, roll is synonymous with synchronization. As such, the problem can be eliminated in the display.

Methods for estimating attitude of the spin axis at the mean time of a picture are described.

4.7.1.1 Pitch Determination

Select a picture with sufficient landmarks to permit a good grid fit (Section 4.5.2). Note the cut-off latitude at the meridian of the subsatellite point in the northern and southern hemispheres. If the higher latitude is seen in the southern hemisphere, then positive pitch is present. Use Figure 4-9, Latitude-Pitch Relation, with latitude noted to read pitch angle; i. e., 60° latitude results from 0.75° of pitch.

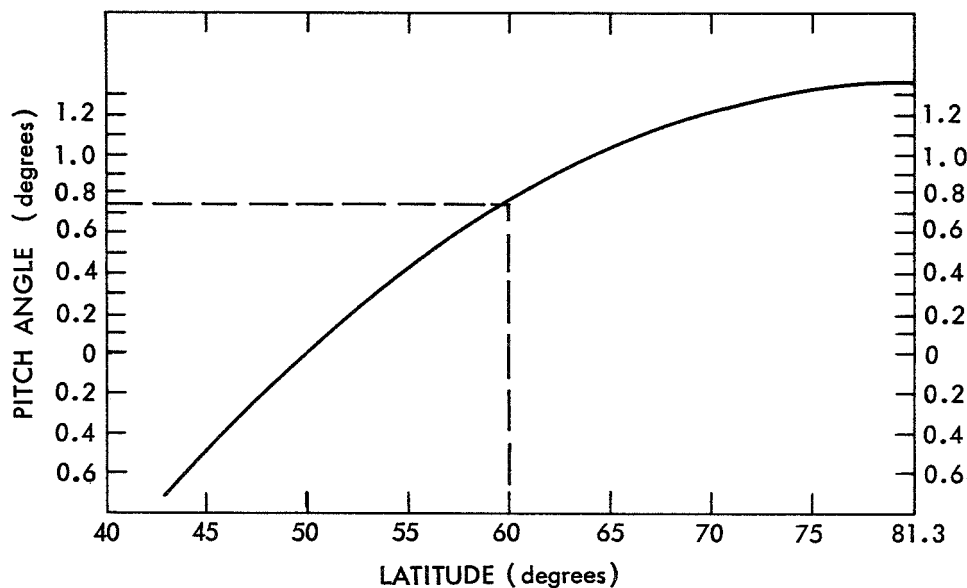


Figure 4-9. Latitude Pitch Relation

4.7.1.1.1 Maximum Pitch Determination

The numerical value of maximum pitch may be estimated by finding the root mean square of the pitch and yaw angles. Alternately, it may be found desirable to fit sequence pitch and/or yaw measurements to 24-hour sine curves, with the yaw curve lagging with pitch by 90° (6 hours).

4.7.1.1.2 Time of Maximum Pitch

See Section 3.8.1.2.

4.7.1.1.3 Attitude Computation.

See Section 3.8.3.

4.7.1.2 Yaw Determination

Observe the angle between the grid equator and the direction of the scan lines. This is the yaw angle. When the grid appears rotated counterclockwise with respect to the scan lines, the yaw is positive.

4.7.2 Nutation

During satellite nutation, the sampling and presentation of data varies with the scanning mode used. If the latitudinal scan (west to east) mode is in effect during satellite nutation, the sensor may observe redundant data samples during the scan, and/or omit sequential data samples during satellite attitude excursions within the period of a scan line generation. Figure 4-10 shows part of an IDCS photograph obtained in the latitudinal scan mode (Section 4.1.4.2) during satellite nutation. Imaging is not readily identifiable due to a combination of redundant and omitted samples. Data observed in the longitudinal scan (north to south) mode contains neither gaps nor overlaps in the picture, but does include scalloping throughout the picture due to line stretching or shortening (Figure 4-11).



Figure 4-10. Nutation, Latitudinal Scan Mode

Pictures produced in either scan mode can be corrected to within acceptable limits. However, those pictures produced in the longitudinal scan mode can be more readily corrected at the ground station than those produced in the latitudinal scan mode. A comparison between raw and rectified data produced in the longitudinal scan mode can be seen in Figures 4-12 and 4-13.

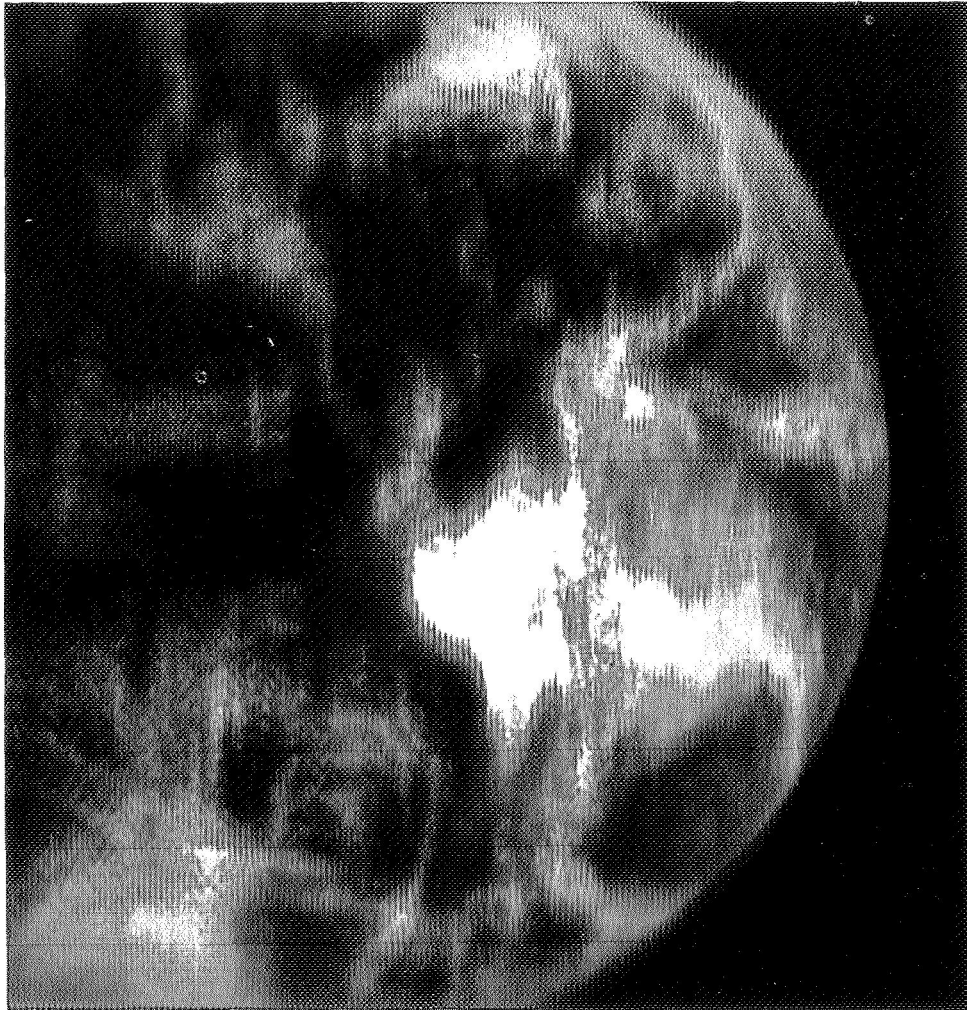


Figure 4-11. Nutation, Longitudinal Scan Mode

4.8 DATA CLASSIFICATION

All IDCS pictures are carefully examined by a professional meteorologist experienced in meteorological satellite picture interpretation. A broad classification of data content with respect to meteorological and/or geographical features is made from two or three pictures on those days when MSSCC data are not classified. These data classifications are published in the data catalog. Final or comprehensive classification is a product of research and is, of course, left to the user. Data classifications used are defined in Volume I, Part I, Appendix A of The Meteorological Data Catalog for the Applications Technology Satellite.

The latitudinal scan mode is the preferred and predominate method of line scanning. Therefore, no indication is given in the Remarks section of the data log for pictures

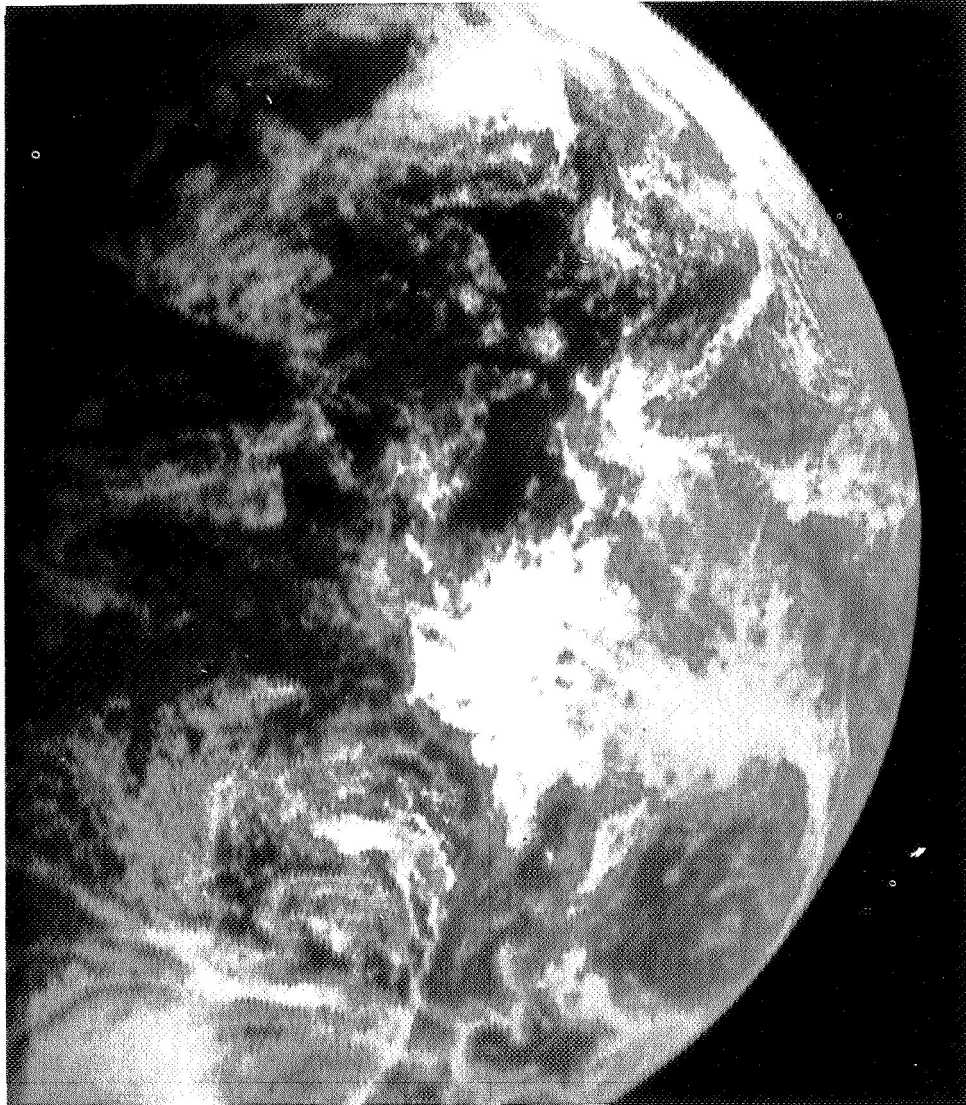


Figure 4-12a. Nutation, Longitudinal Scan Mode, Raw Data

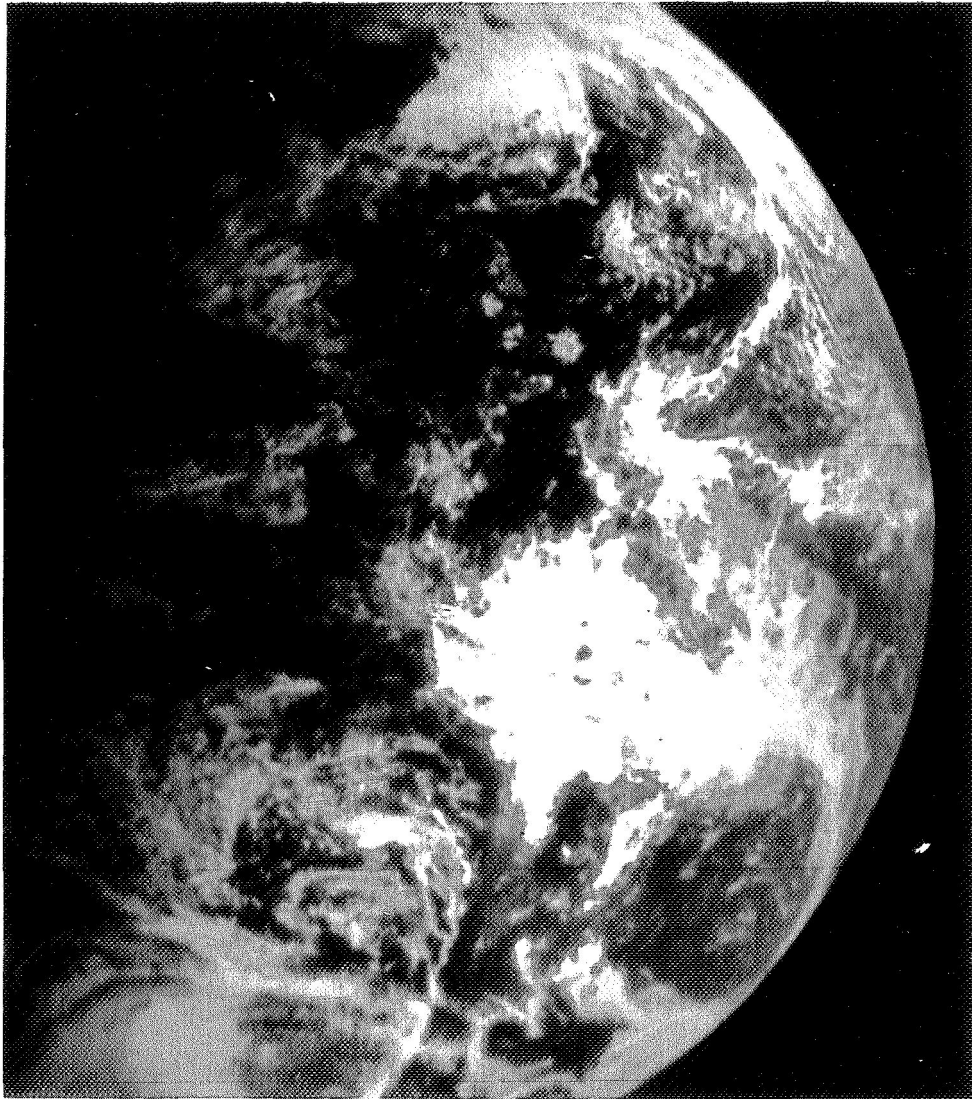


Figure 4-12b. Nutation, Longitudinal Scan Mode, Rectified Data

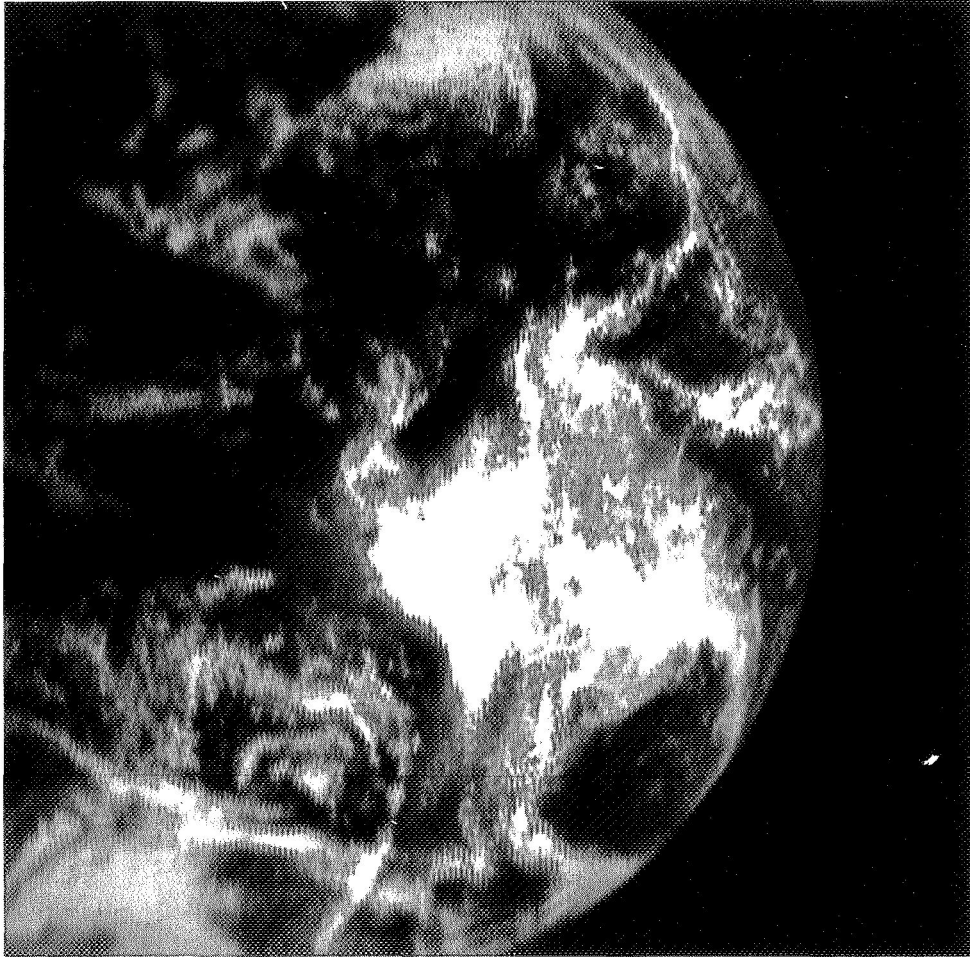


Figure 4-13a. Nutation, Longitudinal Scan Mode, Raw Data

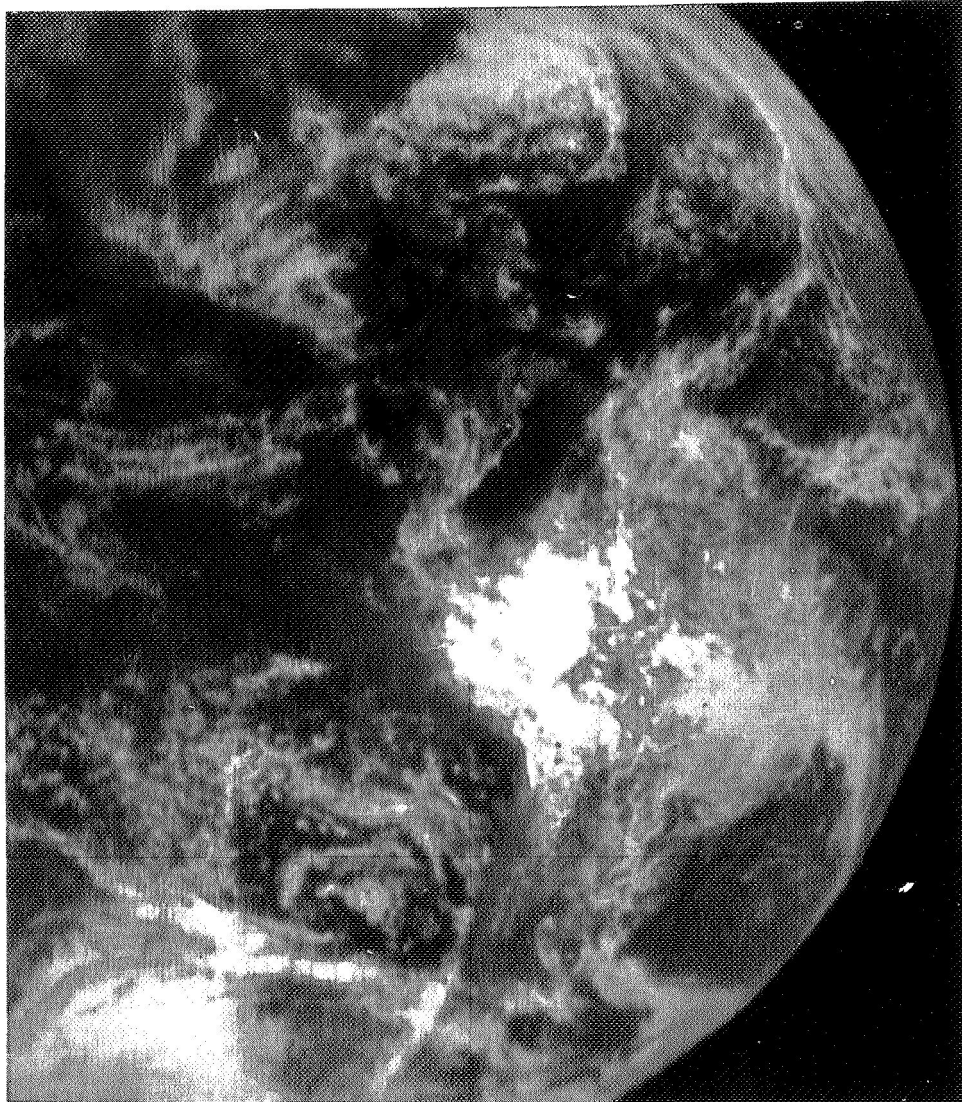


Figure 4-13b. Nutation, Longitudinal Scan Mode, Rectified Data

obtained with this scanning mode. Pictures obtained in the longitudinal scan mode are indicated by "P" in the Remarks section of the data log.

4.9 ARCHIVING AND STORAGE

Individual IDCS pictures will be copied in black and white in chronological order (GMT) and by daily sequence number. A reel of IDCS pictures is about 125 feet long and 5 inches wide. Each positive or negative transparent reel includes a family of suitable grids, each grid identified by the subpoint for which it was generated. The black and white archival data will be stored by:

National Weather Records Center
Environmental Science Services Administration
Federal Building
Asheville, North Carolina 28801

SECTION 5

METEOROLOGICAL DATA CATALOG

Meteorological data acquired from the ATS-III satellite are recorded in various formats. The Multicolor Spin Scan Cloud Camera data are recorded on photographic film and digital and analog magnetic tapes. Image Dissector Camera System data are recorded on photographic film and on analog magnetic tapes. These data will be listed in periodically published catalogs.

The catalog consists of one or more parts. User's Guides will be included as Part I when the system described has produced useful data. Data listings of ATS-I, ATS-III and subsequent satellites will be included as separate parts. Each data listing is made up of four sections. Section 1, Introduction, contains comments relative to the particular satellite operation during the catalog period. Section 2, Orbital Data, lists those elements which define the orbit. Section 3, The Meteorological Data Catalog, lists the photographic data acquired during the period. Comments as to photographic quality, and meteorological and geomorphological content will be included. The subsatellite point indicated for each day will be at satellite noon (GMT). Since the latitude of the subsatellite point can vary up to 0.5° in an unspecified manner, the latitude listed should only be used for the time indicated. A sample of the photographic data, as near satellite noon as possible, is displayed opposite the data listing for the day (black and white reproduction of the color data will be used). Section 4, The Tape Listing, contains the listing of those tapes, analog or digital, which are on file.

SECTION 6

METEOROLOGICAL DATA AVAILABILITY

6.1 ATS METEOROLOGICAL DATA CATALOGS

ATS Meteorological Data Catalogs are available upon request from:

National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771
ATTN: NADUC Code 460

Volume I, containing the ATS-I Spin Scan Cloud Camera Data User's Guide and ATS-I data listings for the period 1 January 1967 through 30 June 1967 was distributed during January 1968.

6.2 FILM DATA

6.2.1 Black and White

Multicolor Spin Scan Cloud Camera and Image Dissector Camera System photographic data acquired after experiment engineering checkout and validation are completed will be available at cost in either positive or negative black and white transparencies in 125 foot rolls of 5 inch wide film. Appropriate grids will be included with each roll.

Once data availability by special reel number is announced in an ATS Meteorological Data Catalog, address requests for black and white film to:

National Weather Records Center
Environmental Science Services Administration
Federal Building
Asheville, North Carolina 28801

The following information should be included in correspondence or on orders to the National Weather Records Center:

- a. Satellite designation; i. e., , ATS-III
- b. Desired camera system data; i. e., MSSCC
- c. Reel numbers desired. Section 1 of the appropriate part and catalog contains a listing of specific reel numbers with inclusive data days.

d. Format desired, positive or negative or both. (Appropriate grids will be furnished with each format.)

e. Mailing address.

Pending publication of data availability from the archival source by specific reel number, requests for specific black and white data should be addressed to the source indicated in Section 6.2.2.

6.2.2 Color

Color prints and color positive transparencies of Multicolor Spin Scan Cloud Camera data are available in various sizes. Limited quantities of such data can be provided without charge to recognized research activities for use in specific studies. Address such requests to:

National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771
ATTN: NADUC Code 460

6.3 MAGNETIC DATA TAPES

Much of the ATS-III data exist on digital and/or analog tapes. However, these tapes cannot be easily read by conventional equipment. Queries relative to the nature and format should be directed as follows:

a. Multicolor Spin Scan Cloud Camera

Dr. Verner E. Suomi
Space Sciences and Engineering Center
University of Wisconsin
Madison, Wisconsin 53706

Section 4 of the appropriate part of the catalog contains a listing of the digital and/or analog data which are in file at the University of Wisconsin.

b. Image Dissector Camera System

National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771
ATTN: Mr. Gilbert A. Branchflower, Code 771

Section 4 of the appropriate part of the catalog contains a listing of those analog data tapes available on file at GSFC.

6.4 INFORMATION RETRIEVAL SERVICES

See Volume I, Part I, Section 7 of The Meteorological Data Catalog for the Applications Technology Satellite for particulars concerning this service.

PART II
THE ATS - III METEOROLOGICAL
DATA CATALOG

7 November 1967

through

31 January 1968

SECTION 1

INTRODUCTION

The third Applications Technology Satellite (ATS-III) was successfully launched from the Eastern Test Range, Florida, on 5 November 1967. Lift-off occurred at 23 hours 37 minutes 00.265 seconds Greenwich Mean Time. Photographic subsystems were undergoing engineering evaluation during the data period represented in this catalog.

Anomalies occurred in the ground equipment as well as in the flight equipment. Actions have been and are being taken to correct or compensate for these anomalies wherever possible.

Distortion in the early MSSCC data display resulted from an amplifier linearity problem which caused the equatorial data to be displayed farther eastward than the polar data. This "bowing effect" of data is readily apparent in the "sync error" display. This problem has been eliminated through modification of ground equipment. The full color data sequences of 18 and 19 November 1967 are classic in their color views of the earth from sunrise to sunset.

MSSCC full color photographic data improved during the early portion of January 1968 only to be lost as the red high voltage converter behaved erratically. Modification of the ground equipment has produced a clean green signal for processing onto black and white film. Experimentation continues as to which photographic film, Polaroid P/N 55 or Kodak Plus X, better meets the particular requirements of the black and white MSSCC photographic data.

IDCS ground equipment has been modified to permit the west and east limbs of the earth (in latitudinal scan modes) to appear in the video display. The first picture taken to include the limbs occurred at 13 37 44 GMT, 5 January 1968. Overall quality of the IDCS picture continues to improve as the ground equipments are modified or replaced. A comparison between November 1967 and January 1968 IDCS data readily points up the superiority of the later data.

The IDCS data display still contains a slight aspect ratio problem. The earth horizons near the poles tend to be misplaced.

Desired overall gridding accuracy has been successfully attained after elimination or reduction of aspect ratio and presentation anomalies. Accuracy on the order of 5-10 nautical miles has been achieved in specific areas where visible coastlines and/or land masses have been identified.

Satellite location has been changed from its programmed nominal position 0.0° latitude, 47° W longitude. Location changes can be noted in the meteorological data catalogs.

Satellite attitude maneuvers were conducted between 13 00 00 and 21 00 00 GMT on 26 and 27 January 1968 to support a nutation experiment.

Photographs of the moon were acquired by the MSSCC on 20 and 21 January 1968.

Data listings and representative MSSCC (black & white) and IDCS pictures are presented in Section 3 for those days when data were received. Certain data, of interest only to the experimenters, have not been included in the listings. Data Content Descriptors have not been included since the data are still regarded to be part of the engineering and evaluation period. It will be noted that data reception was sporadic during this period and that some of these data are of limited use for research purposes.

IDCS and MSSCC data received during the engineering evaluation period will not be forwarded to the National Weather Records Center at Asheville for archival and reproduction. Instead, the data will remain at GSFC. Reproduction copies in film or print (including color positive transparencies and color prints for MSSCC) can, upon request, be made available to qualified investigators without charge.

Requests for these data should be addressed to:

National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771
Attn: NADUC, Code 460

SECTION 2

ATS-III ORBITAL DATA

This section contains a listing of the orbital elements. These data may be used by those who desire to compute the ephemeris.

ORBITAL ELEMENTS

Valid Time (UT)	Semi-Major Axis (Km)	Eccen- tricity (Deg)	Incl- nation (Deg)	Mean Anomaly (Deg)	Arg of Perigee (Deg)	Arg of Perigee/ Motion (Deg/Day)	Rt Ascn of A Node (Deg)	Rt Ascn of A Node/ Motion (Deg/Day)	Anomalistic Period (Min)	Anomalistic Period/ Motion (Min/Day)	Ht of Perigee (Km)	Ht of Apogee (Km)	Vel at Perigee (Km/Hr)	Vel at Apogee (Km/Hr)	Geocentric Lat of Perigee (Deg)	Spin Rate (Rpm)
2330/07 Nov 67	42172.25	0.00051	0.401	190.979	109.133	0.0268	50.842	0.0134W	1436.47359	0.00000	35772.76	35815.41	11073	11062	00.379N	89.94
2300/13 Nov 67	42175.67	0.00048	0.466	21.991	103.719	0.0268	57.609	0.0134W	1436.64340	0.00000	35777.24	35817.77	11073	11062	00.453N	86.40
1125/20 Nov 67	42338.08	0.00434	0.452	5.714	126.817	0.0264	49.324	0.0132W	1444.95441	0.00000	35776.36	36143.46	11094	10998	00.362N	86.39
0000/26 Nov 67	42340.25	0.00429	0.450	186.814	124.827	0.0264	50.961	0.0132W	1445.06572	0.00000	35780.33	36143.79	11093	10998	00.370N	86.01
0000/03 Dec 67	42338.86	0.00441	0.444	180.377	124.242	0.0264	50.557	0.0132W	1444.99456	0.00000	35773.96	36147.43	11095	10997	00.367N	85.93
1300/10 Dec 67	42180.43	0.00060	0.492	352.209	133.135	0.0268	54.234	0.0134W	1436.89127	0.00000	35776.92	35827.60	11073	11060	00.359N	80.35
1430/14 Dec 67	42165.69	0.00027	0.500	6.921	140.672	0.0268	50.981	0.0134W	1436.13853	0.00000	35776.19	35798.87	11072	11066	00.317N	unkn
0000/24 Dec 67	42166.49	0.00020	0.500	179.051	123.170	0.0268	53.920	0.0134W	1436.17906	0.00000	35779.77	35796.87	11071	11066	00.419N	unkn
0000/31 Dec 67	42166.24	0.00024	0.564	29.703	99.955	0.0268	57.765	0.0134W	1436.16653	0.00000	35778.00	35798.15	11071	11066	00.555N	80.35
0000/05 Jan 68	42166.87	0.00018	0.594	45.086	125.291	0.0268	59.530	0.0134W	1436.19878	0.00000	35781.17	35796.24	11070	11067	00.484N	80.35
0000/14 Jan 68	42166.33	0.00019	0.613	176.255	149.817	0.0268	56.761	0.0134W	1436.17116	0.00000	35780.23	35796.06	11071	11066	00.308N	80.35
0000/28 Jan 68	42163.54	0.00014	0.728	347.583	345.044	0.0268	58.643	0.0134W	1436.02853	0.00000	35779.49	35791.26	11070	11067	00.188S	80.35

SECTION 3
THE ATS-III METEOROLOGICAL
DATA CATALOG

7 November 1967
through
31 January 1968

7 NOV 67 SUBSATELLITE PT 048.17W 00.03N

MSSCC

IDCS

TOTAL PICS 6

NO DATA AVAILABLE

SEQ	START	ZONE	PICQ	REMARKS
01	18 20 01	00	3001	PIC OFFSET P
02	18 37 15	00	3001	PIC OFFSET P
03	18 54 13	00	3001	P
04	19 11 26	00	3001	P
05	19 28 00	00	3001	P
06	19 46 00	00	3001	EE PIC OFFSET P

8 NOV 67 SUBSATELLITE PT 048.03W 00.02N

MSSCC

TOTAL PICS 7

IDCS

TOTAL PICS 5

SEQ	END	ZONE	PICQ	REMARKS	SEQ	START	ZONE	PICQ	REMARKS
01	14 45 03	00	7000	CP	01	18 36 00	00	5001	PE PIC OFFSET
02	15 14 52	00	3000		02	18 52 30	00	3001	PR
03	15 40 42	00	7000		03	19 09 00	00	3001	PR
04	16 12 00	00	7000		04	19 26 00	00	3001	
05	17 23 25	00	7000	CP	05	19 44 00	00	3001	
06	17 53 16	00	3001						
07	23 01 30	00	7000						

9 NOV 67 SUBSATELLITE PT 048.14W 00.02S

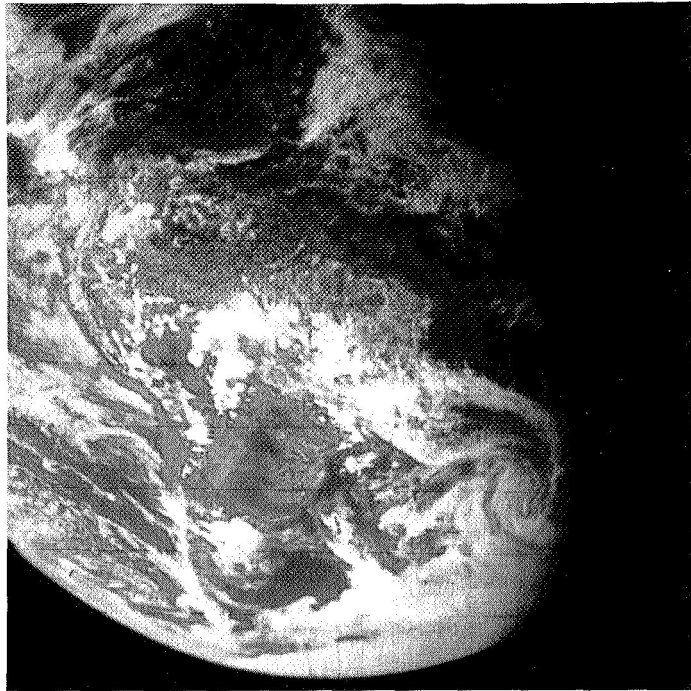
MSSCC

TOTAL PICS 6

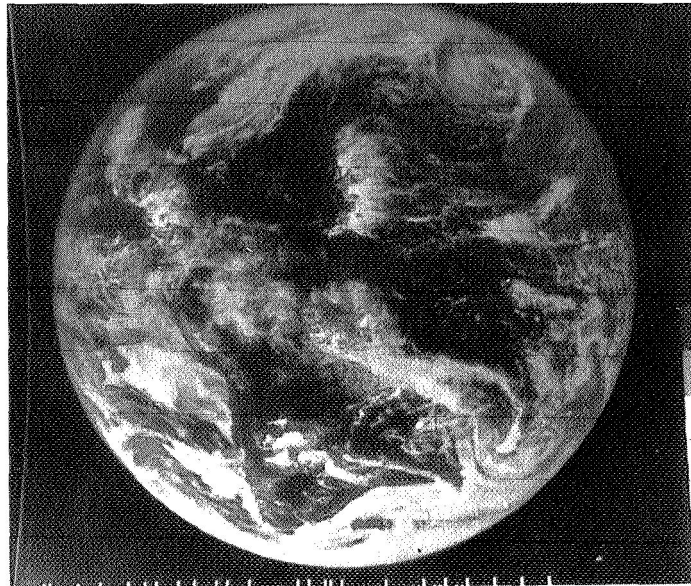
IDCS

TOTAL PICS 2

SEQ	END	ZONE	PICQ	REMARKS	SEQ	START	ZONE	PICQ	REMARKS
01	14 46 35	00	7000		01	17 45 00	00	3001	EE P
02	15 35 35	00	7000		02	18 02 00	00	3001	EE P
03	16 14 35	00	7000						
04	20 23 53	00	4001	CP					
05	20 53 44	00	7000						
06	21 23 33	00	4001	CP					



ATS-III IDCS 7NOV67 183715Z PA 2



ATS-III MSSCC 8NOV67 151452Z 2N

10 NOV 67 SUBSATELLITE PT 048.24W 00.02S

MSSCC TOTAL PICS 9

IDCS

SEQ	END	ZONE	PICO	REMARKS
01	14 31 11	00	7000	
02	15 01 19	00	3000	CP
03	15 31 07	00	3000	CP
04	16 00 59	00	3001	CP
05	17 34 47	00	3001	
06	18 18 00	00	7000	
07	18 49 08	00	3001	CP
08	19 19 00	00	3001	CP
09	19 48 51	00	7000	

NO DATA AVAILABLE

11 NOV 67 SUBSATELLITE PT 048.34W 00.34S

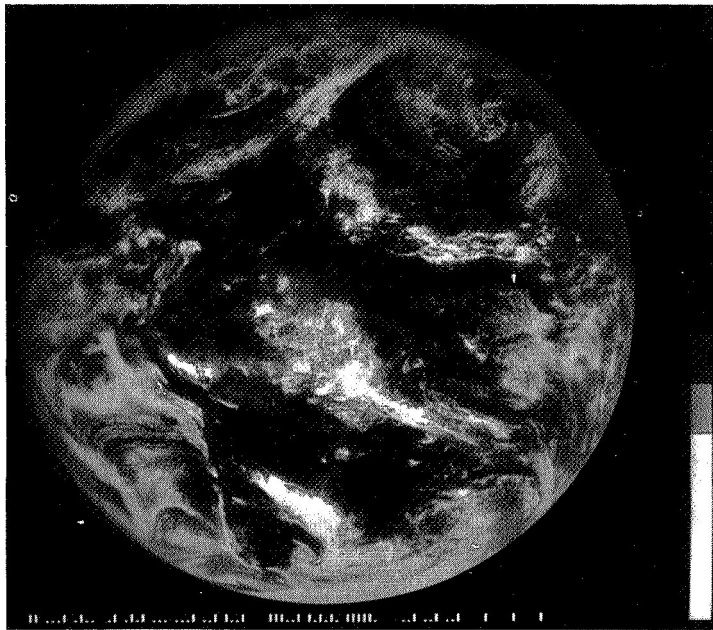
MSSCC

IDCS

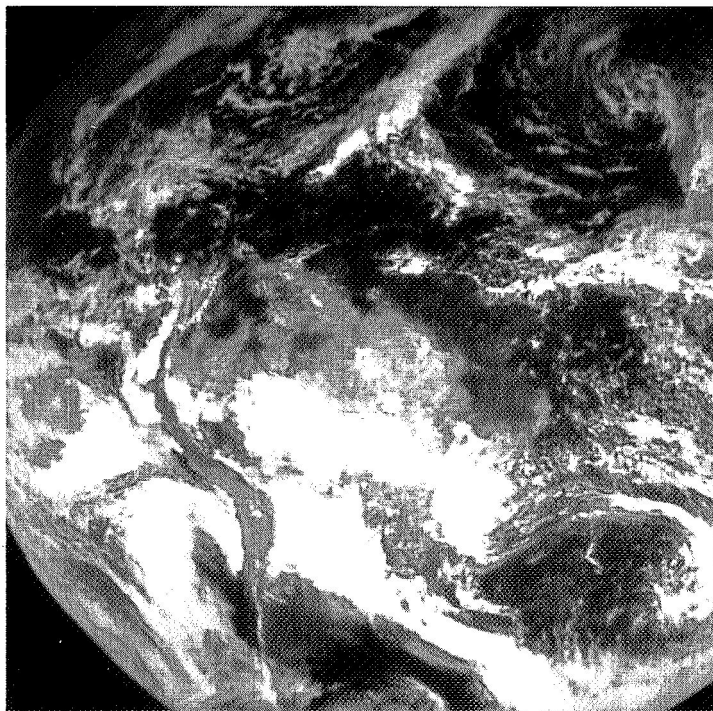
TOTAL PICS 49

NO DATA AVAILABLE

SEQ	START	ZONE	PICO	REMARKS
01	06 19 53	00	1002	P
02	06 37 40	00	3002	P
03	06 54 00	00	3002	P
04	09 11 30	00	3002	P
05	09 28 00	00	3002	P
06	09 45 30	00	3002	P
07	10 01 57	00	3002	P
08	10 19 05	00	1002	PE PIC OFFSET P
09	10 35 55	00	3002	P
10	10 52 00	00	4002	PE EE P
11	11 09 30	00	3002	P
12	11 26 27	00	3002	P
13	11 43 18	00	3002	P
14	12 00 09	00	3002	P
15	12 17 00	00	3002	P
16	12 33 53	00	3002	EE P
17	12 50 44	00	3002	EE P
18	13 07 40	00	3002	P
19	13 24 30	00	3002	P
20	13 41 24	00	3002	P
21	13 58 43	00	3002	EE P
22	14 15 00	00	3002	P
23	14 30 00	00	3002	P
24	14 50 00	00	3000	P
25	15 05 00	00	3000	P
26	15 22 38	00	3000	P
27	15 39 30	00	3001	P
28	15 56 23	00	3001	EE P
29	16 13 16	00	3001	EE P
30	16 30 05	00	3001	EE P
31	16 47 10	00	3001	EE P
32	17 03 55	00	3001	EE P
33	17 20 48	00	3001	EE P
34	17 37 40	00	3001	EE P
35	17 54 32	00	3001	EE P
36	18 11 25	00	3001	EE P
37	18 28 18	00	3001	P
38	18 45 33	00	3001	P
39	19 02 02	00	3001	P
40	19 18 55	00	3001	P
41	19 35 47	00	3001	P
42	19 52 40	00	3001	P
43	20 09 40	00	3001	P
44	20 26 15	00	3001	P
45	20 43 14	00	3001	P
46	21 00 07	00	3001	P
47	21 17 59	00	3001	P
48	21 33 52	00	3001	P
49	21 50 53	00	3001	P



ATS-III MSCC 10NOV67 150119Z 2N



ATS-III IDCS 11NOV67 150500Z PA 25

12 NOV 67 SUBSATELLITE PT 048.45W 00.03S

MSSCC TOTAL PICS 6

IDCS

SEQ	END	ZONE	PICQ	REMARKS
01	16 58 39	00	3001	CP
02	17 28 28	00	3001	CP
03	17 58 20	00	3001	CP
04	18 24 10	00	3501	CP
05	18 56 13	00	7000	
06	19 26 02	00	4001	CP

NO DATA AVAILABLE

13 NOV 67 SUBSATELLITE PT 048.55W 00.04S

MSSCC TOTAL PICS 4

IDCS

SEQ	END	ZONE	PICQ	REMARKS
01	15 15 52	00	3000	CP
02	15 45 40	00	3000	CP
03	16 15 32	00	3001	CP
04	16 45 24	00	3001	CP

NO DATA AVAILABLE

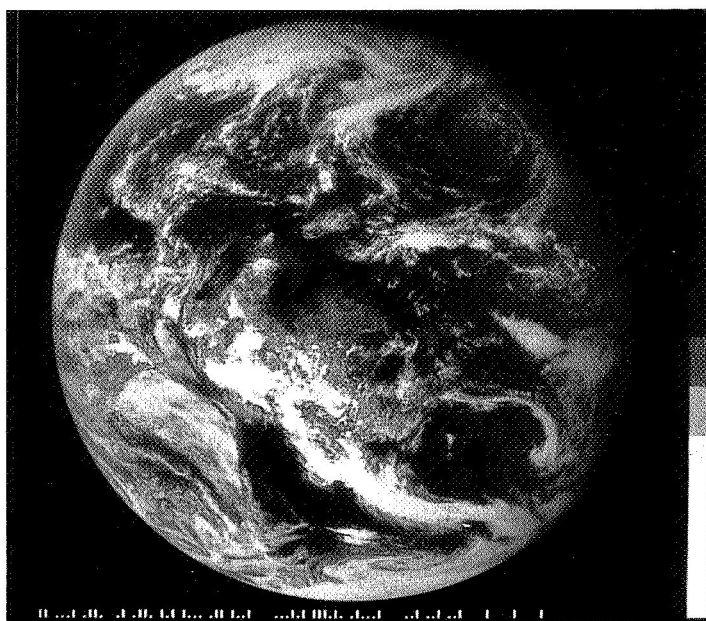
14 NOV 67 SUBSATELLITE PT 048.68W 00.07N

MSSCC TOTAL PICS 4

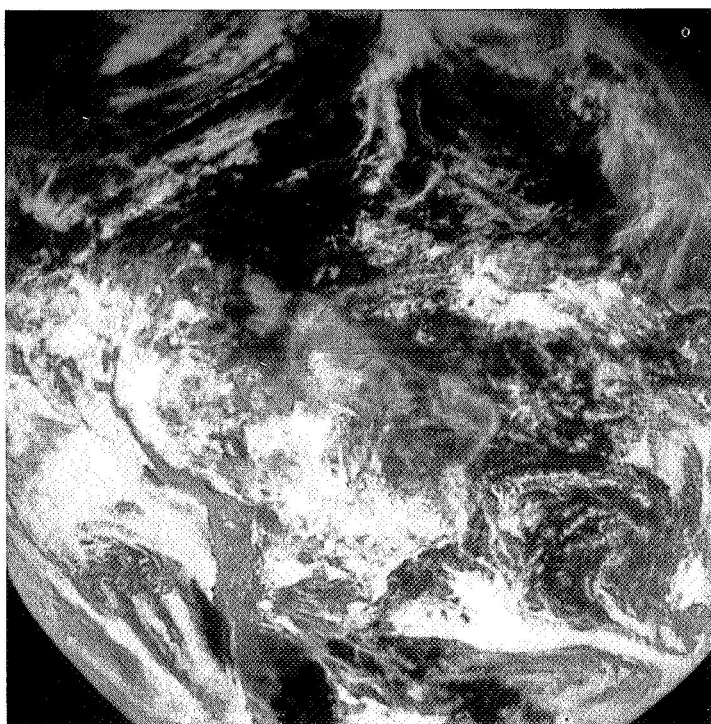
IDCS TOTAL PICS 28

SEQ	END	ZONE	PICQ	REMARKS
01	21 15 30	00	7000	
02	21 45 55	00	7000	
03	22 15 47	00	7000	
04	22 45 36	00	7000	

SEQ	START	ZONE	PICQ	REMARKS
01	09 02 14	00	3002	
02	09 20 00	00	3002	EE
03	09 36 39	00	3002	EE
04	09 53 30	00	3002	EE
05	10 10 21	00	3002	NEG TORN EE
06	10 27 14	00	3002	EE
07	10 44 07	00	3002	EE
08	11 01 00	00	3002	EE
09	11 17 53	00	3002	EE
10	11 34 45	00	3002	EE
11	11 51 40	00	3002	EE
12	12 08 50	00	3002	EE
13	12 25 24	00	3002	PE EE
14	12 42 20	00	3002	EE
15	12 59 10	00	3002	EE
16	13 16 00	00	3002	EE
17	13 32 55	00	3002	EE
18	13 49 50	00	3002	EE
19	14 06 42	00	3002	EE
20	14 23 35	00	3000	EE
21	14 40 29	00	3000	EE
22	14 57 00	00	3000	EE
23	15 14 40	00	3000	EE
24	15 40 00	00	7000	EST TIME
25	19 10 47	00	3001	
26	19 27 55	00	3001	
27	19 45 00	00	3001	
28	20 01 50	00	3001	



ATS-III MSSCC 12NOV68 165839Z 1N



ATS-III IDCS 14NOV67 145700Z SA 22

15 NOV 67 SUBSATELLITE PT 048.80W 00.06N

MSSCC

IDCS

TOTAL PICS 1

NO DATA AVAILABLE

SEQ	START	ZONE	PICQ	REMARKS
01	23 23 00	00	4001	P

16 NOV 67 SUBSATELLITE PT 048.92W 00.05N

MSSCC

TOTAL PICS 11

IDCS

SEQ	END	ZONE	PICQ	REMARKS
01	14 54 11	00	7000	
02	15 24 01	00	3000	
03	15 53 52	00	7000	
04	16 23 44	00	3001	
05	17 04 17	00	7000	
06	17 34 08	00	3001	
07	18 04 00	00	3001	
08	18 33 49	00	7000	
09	19 03 40	00	3001	
10	19 33 29	00	7000	
11	20 03 21	00	4001	

NO DATA AVAILABLE

17 NOV 67 SUBSATELLITE PT 049.04W 00.04N

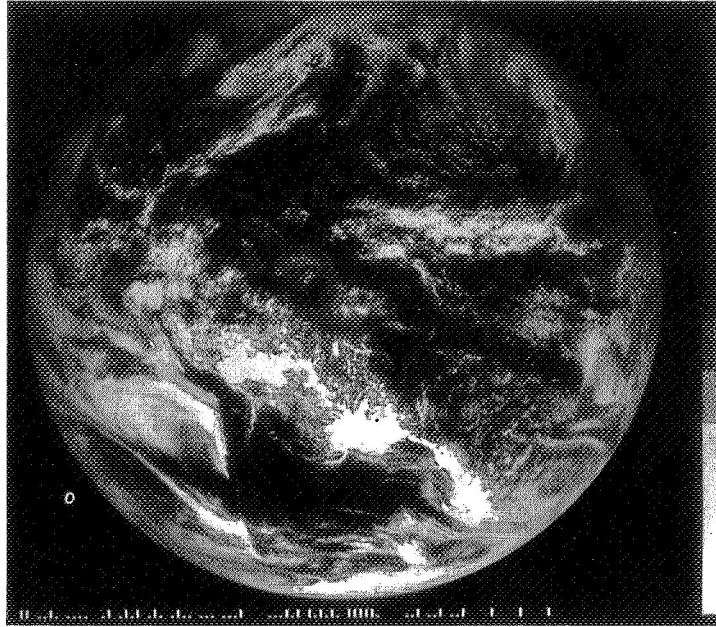
MSSCC

IDCS

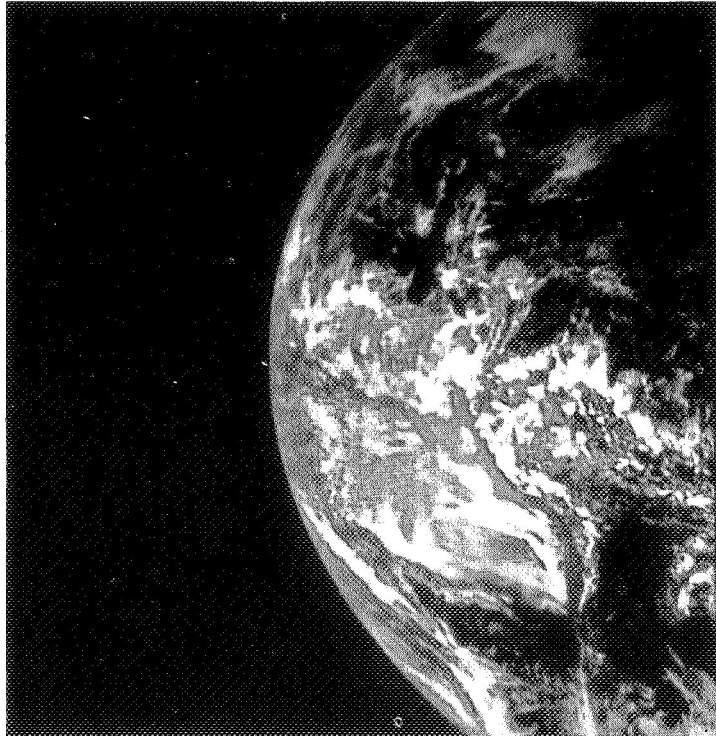
TOTAL PICS 6

NO DATA AVAILABLE

SEQ	START	ZONE	PICQ	REMARKS
01	19 09 07	00	4000	PIC OFFSET P
02	19 36 39	00	3001	P
03	19 54 09	00	3001	PE
04	20 11 20	00	3001	PE P
05	20 28 19	00	3001	PE
06	20 45 20	00	3001	P



ATS-III MSSCC 16NOV67 152401Z 2N



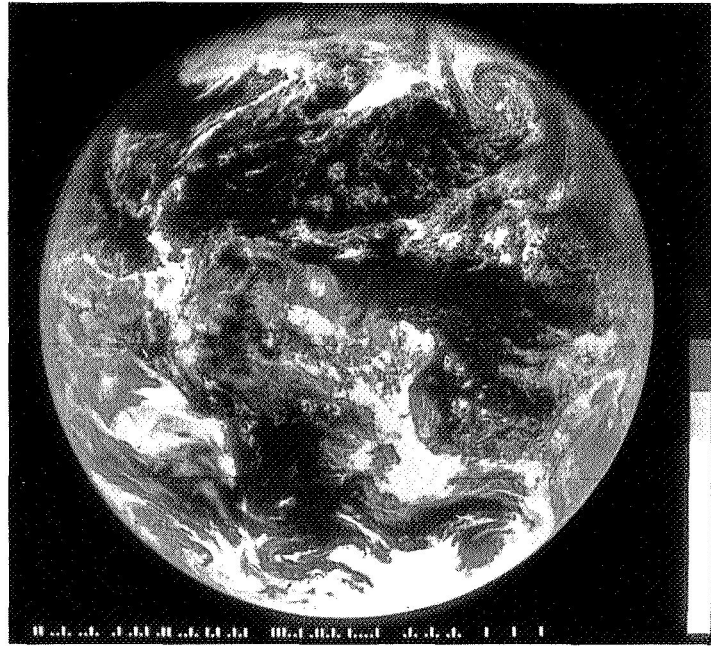
ATS-III IDCS 17NOV67 193639Z PM 2

18 NOV 67 SUBSATELLITE PT 049.16W 00.04N

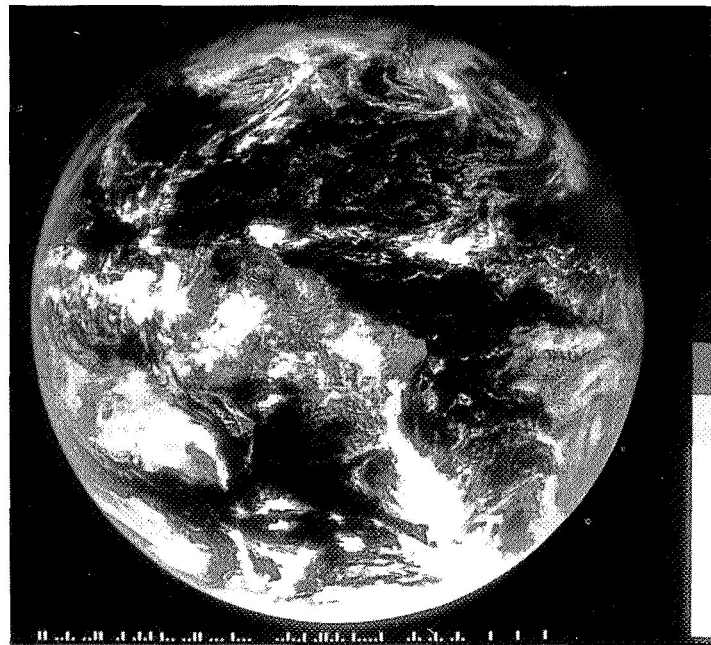
MSSCC		TOTAL PICS 34		IDCS
SFO	END	ZONE	PICO	REMARKS
01	07 04 02	00	4002	NO DATA AVAILABLE
02	07 37 50	00	4002	
03	07 56 10	00	4502	
04	08 24 22	00	3002	
05	08 54 11	00	3002	
06	09 28 03	00	3002	
07	09 57 51	00	3002	
08	10 27 43	00	3002	
09	10 57 35	00	3002	
10	11 27 23	00	3002	
11	11 57 15	00	3002	
12	12 27 04	00	3002	
13	12 56 56	00	3002	
14	13 33 31	00	3002	
15	14 03 23	00	3002	
16	14 33 15	00	3002	
17	15 03 03	00	3002	
18	15 32 55	00	3000	
19	16 02 44	00	3000	
20	16 32 35	00	3001	
21	17 02 25	00	3001	
22	17 32 16	00	3001	
23	18 02 08	00	3001	
24	18 31 57	00	3001	
25	19 01 48	00	3001	
26	19 31 38	00	3001	
27	20 01 29	00	3001	
28	20 31 18	00	3001	
29	21 01 10	00	3001	
30	21 31 01	00	4001	
31	22 00 50	00	4001	
32	22 30 42	00	4001	
33	23 00 31	00	4001	
34	23 30 23	00	4001	

19 NOV 67 SUBSATELLITE PT 049.28W 00.03N

MSSCC		TOTAL PICS 34		IDCS	
SFO	END	ZONE	PICO	REMARKS	
01	00 00 11	00	4001	NO DATA AVAILABLE	
02	07 23 23	00	4002		
03	07 53 12	00	4002		
04	08 23 04	00	3002		
05	08 52 52	00	3002		
06	09 22 44	00	3002		
07	09 52 33	00	3002		
08	10 22 24	00	3002		
09	10 52 16	00	3002		
10	11 22 05	00	3002		
11	11 40 10	00	4002		PE CP
12	12 14 14	00	3002		PE CP
13	12 44 03	00	4002		
14	13 13 55	00	3002		
15	13 43 47	00	4002		
16	14 13 36	00	4002		
17	14 43 27	00	3002		
18	15 13 16	00	3002		
19	15 43 08	00	3000		
20	16 12 57	00	3001		
21	16 42 49	00	4001		
22	17 12 40	00	3001		
23	17 42 29	00	4001		CP
24	18 12 21	00	4001		
25	18 42 09	00	4001		
26	19 12 01	00	4001		
27	20 21 38	00	4001		
28	20 51 27	00	4001		
29	21 21 19	00	4001		
30	21 51 07	00	4001		
31	22 20 59	00	4001		
32	22 50 48	00	4001		
33	23 20 39	00	4001		
34	23 50 31	00	4001		



ATS-III MSSCC 18NOV67 153255Z 18N



ATS-III MSSCC 19NOV67 154308Z 19N

20 NOV 67 SUBSATELLITE PT 049.31W 00.04S

MSSCC					IDCS				
TOTAL PICS 9					TOTAL PICS 4				
SEQ	END	ZONE	PICQ	REMARKS	SEQ	START	ZONE	PICQ	REMARKS
01	14 31 38	00	3002	PIC OFFSET	01	12 20 00	00	3000	PE PIC OFFSET P
02	15 10 46	00	3502		02	12 36 50	00	3000	PE PIC OFFSET P
03	15 40 58	00	3000		03	12 53 45	00	3000	EE PIC OFFSET P
04	16 11 13	00	3001		04	13 10 38	00	3000	PE PIC OFFSET P
05	16 41 26	00	3001						
06	17 11 38	00	3001						
07	17 41 51	00	3001						
08	18 12 03	00	3001						
09	18 42 19	00	3001						

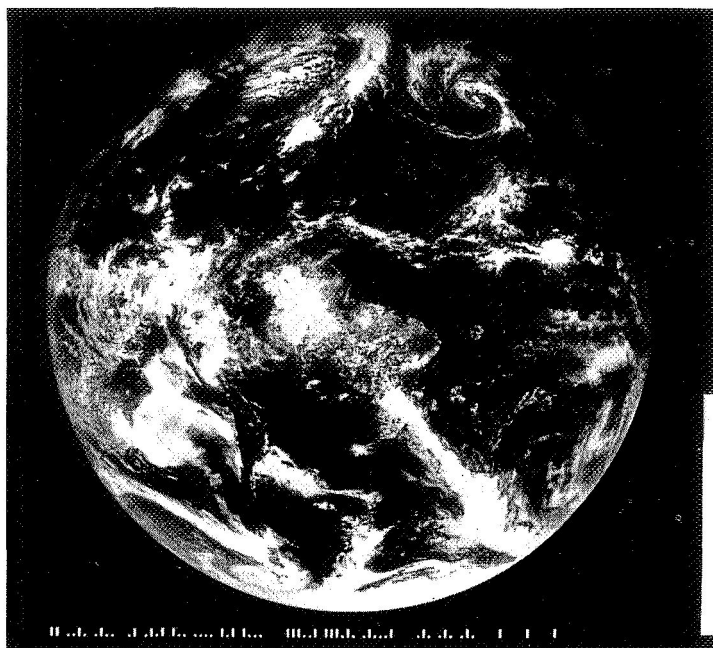
21 NOV 67 SUBSATELLITE PT 051.53W 00.03S

MSSCC					IDCS				
TOTAL PICS 15					TOTAL PICS 15				
NO DATA AVAILABLE					SEQ	START	ZONE	PICQ	REMARKS
					01	09 11 36	00	4002	PE PIC OFFSET P
					02	11 05 20	00	4002	EE PC P
					03	11 37 56	00	7000	P
					04	13 45 58	00	4000	PE PIC OFFSET P
					05	16 21 39	00	4001	PE PIC OFFSET P
					06	16 41 41	00	3001	PE PIC OFFSET
					07	17 05 04	00	3001	EE P
					08	17 25 54	00	3001	
					09	17 45 44	00	3001	P
					10	18 29 04	00	3001	P
					11	18 47 02	00	3001	
					12	19 29 06	00	3001	
					13	19 49 12	00	4001	PC P
					14	20 25 27	00	4001	PC P
					15	20 44 52	00	4001	PC

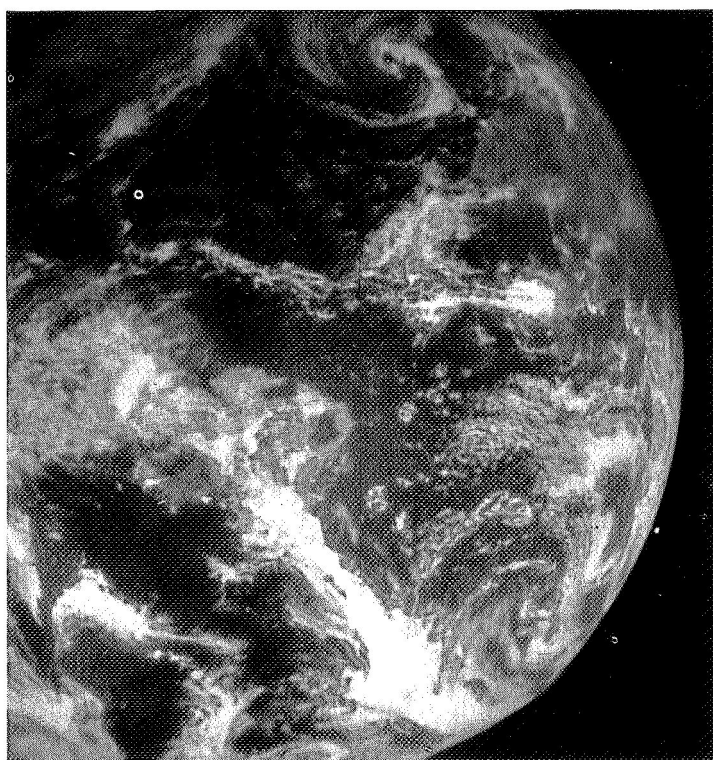
22 NOV 67 SUBSATELLITE PT 053.78W 00.14S

MSSCC					IDCS				
TOTAL PICS 3					TOTAL PICS 3				
SEQ	END	ZONE	PICQ	REMARKS	NO DATA AVAILABLE				
01	15 00 19	00	3002	PIC OFFSET					
02	15 49 48	00	3000						
03	16 20 07	00	3001						

23 THROUGH 26 NOVEMBER 1967 NO DATA AVAILABLE



ATS-III MSSCC 20NOV67 154058Z 3N



ATS-III IDCS 20NOV67 131038Z PA 4

27 NOV 67 SUBSATELLITE PT 064.08W 00.08S

MSSCC	IDCS	TOTAL PICS	2
NO DATA AVAILABLE	SEQ START ZONE PICO REMARKS		
	01 15 24 52 00 3002		
	02 15 43 58 00 3000		EE P

28 NOV 67 SUBSATELLITE PT 067.11W 00.07S

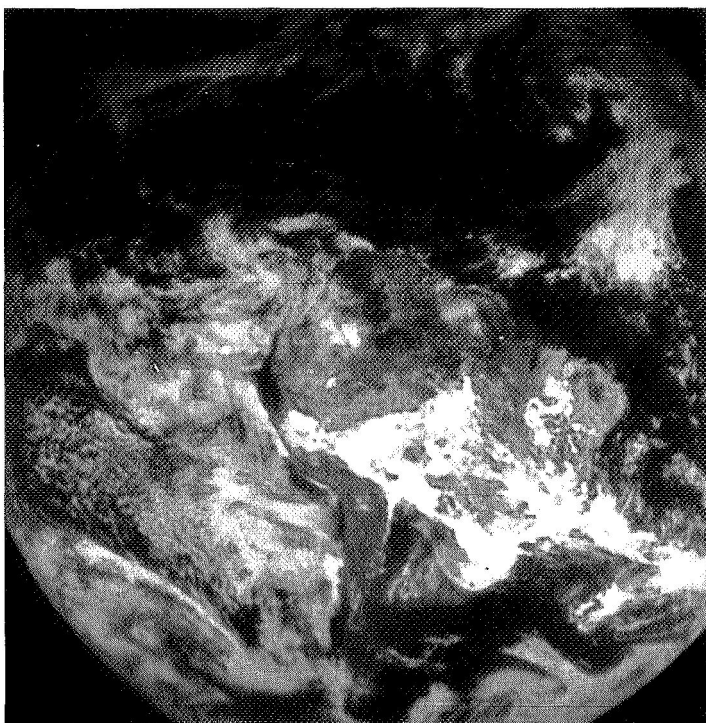
MSSCC	IDCS	TOTAL PICS	38
NO DATA AVAILABLE	SEQ START ZONE PICO REMARKS		
	01 12 20 40 00 4000		PE PIC OFFSET P
	02 12 38 25 00 3002		PE PIC OFFSET P
	03 12 56 43 00 3002		PE PIC OFFSET P
	04 13 14 50 00 4002		EE PC P
	05 13 33 00 00 4002		PC P
	06 14 01 50 00 3002		P
	07 14 19 20 00 3002		P
	08 14 37 34 00 3002		P
	09 14 55 50 00 3002		P
	10 15 14 10 00 3002		P
	11 15 32 25 00 3002		P
	12 15 50 38 00 3002		P
	13 16 08 55 00 3000		P
	14 16 27 14 00 3001		EE P
	15 16 45 00 00 3001		EE P
	16 17 03 00 00 3001		P
	17 17 22 02 00 3001		P
	18 17 40 21 00 3001		P
	19 17 58 36 00 3001		P
	20 18 16 52 00 3001		P
	21 18 34 50 00 3001		P
	22 18 53 28 00 3001		P
	23 19 11 45 00 3001		P
	24 19 29 55 00 3001		P
	25 19 48 12 00 3001		P
	26 20 05 27 00 3001		P
	27 20 24 45 00 3001		P
	28 20 43 00 00 3001		P
	29 21 01 17 00 3001		P
	30 21 19 33 00 4001		P
	31 21 37 51 00 4001		P
	32 21 56 09 00 4001		P
	33 22 14 26 00 4001		P
	34 22 32 43 00 4001		P
	35 22 51 00 00 5001		PC P
	36 23 09 15 00 4001		PC P
	37 23 27 34 00 4001		PC P
	38 23 45 48 00 4001		PC P

29, 30 NOVEMBER 1967 NO DATA AVAILABLE

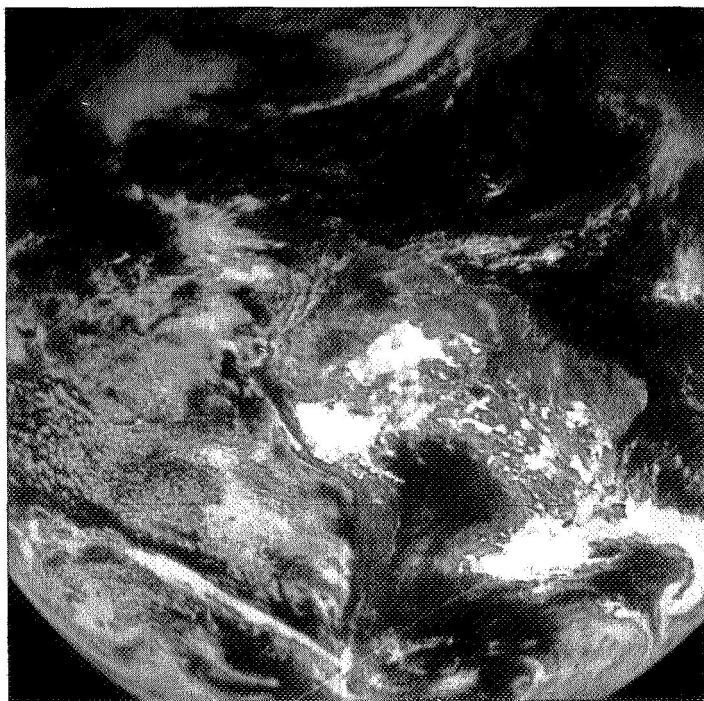
1 DEC 67 SUBSATELLITE PT 073.05W 00.16S

MSSCC	IDCS	TOTAL PICS	6
NO DATA AVAILABLE	SEQ START ZONE PICO REMARKS		
	01 16 24 28 00 4000		EE PE P
	02 16 42 40 00 3000		EE PF P
	03 17 01 03 00 3000		EE P
	04 17 19 16 00 3001		EE P
	05 17 35 30 00 3001		EE P
	06 17 55 49 00 4001		EE P

2, 3 DECEMBER 1967 NO DATA AVAILABLE



ATS-III IDCS 27NOV67 152452Z SM 01



ATS-III IDCS 28NOV67 160855Z PA 13

4 DEC 67 SUBSATELLITE PT 080.53W 00.125

MSSCC

IDCS

TOTAL PICS 2

NO DATA AVAILABLE

SEQ	START	ZONE	PICQ	REMARKS
01	16 26 05	00	3002	P
02	16 43 10	00	3002	P

5 DEC 67 SUBSATELLITE PT 082.76W 00.115

MSSCC

IDCS

TOTAL PICS 10

NO DATA AVAILABLE

SEQ	START	ZONE	PICQ	REMARKS
01	15 16 46	00	3002	P
02	15 37 33	00	3002	
03	16 14 23	00	3002	EE
04	16 34 29	00	3002	P
05	17 18 15	00	4000	PC EE P
06	17 38 22	00	3000	
07	18 17 43	00	3001	P
08	18 39 18	00	3001	P
09	18 57 44	00	3001	
10	19 23 20	00	3001	

6 DEC 67 SUBSATELLITE PT 085.06W 00.215

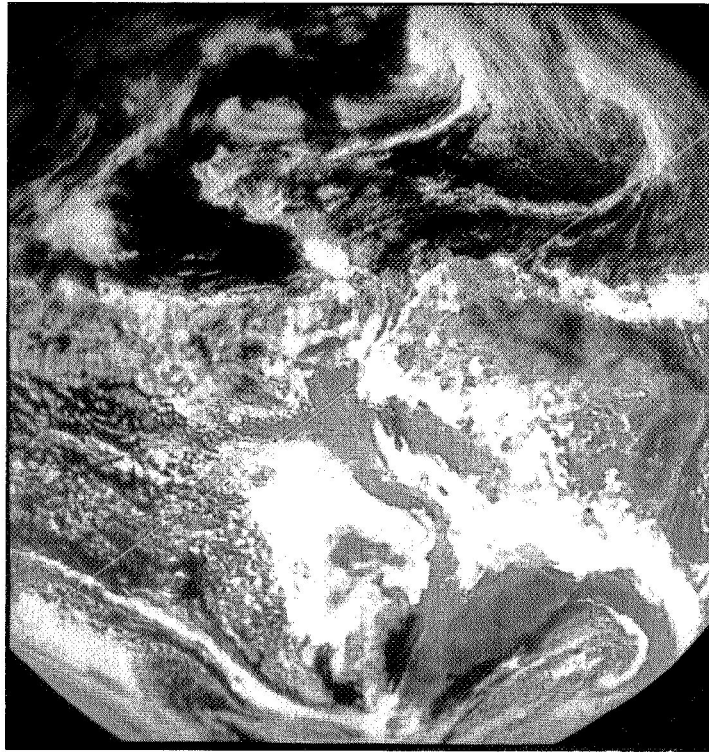
MSSCC

IDCS

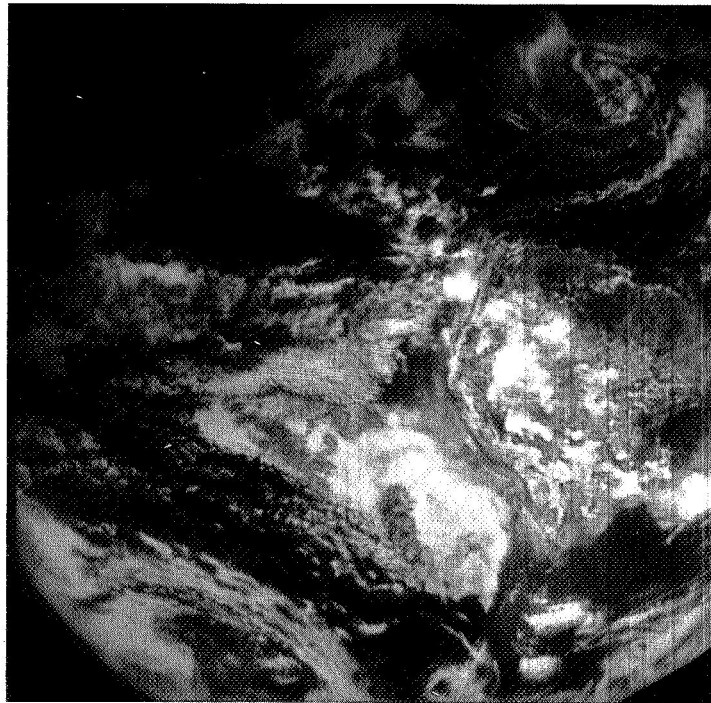
TOTAL PICS 5

NO DATA AVAILABLE

SEQ	START	ZONE	PICQ	REMARKS
01	15 23 59	00	3002	P
02	15 47 21	00	3002	P
03	16 05 30	00	3002	P
04	16 23 37	00	3002	EE P
05	16 41 45	00	3002	EE P



ATS-III IDCS 4DEC67 164310 PA 2



ATS-III IDCS 6DEC67 160530 PA 3

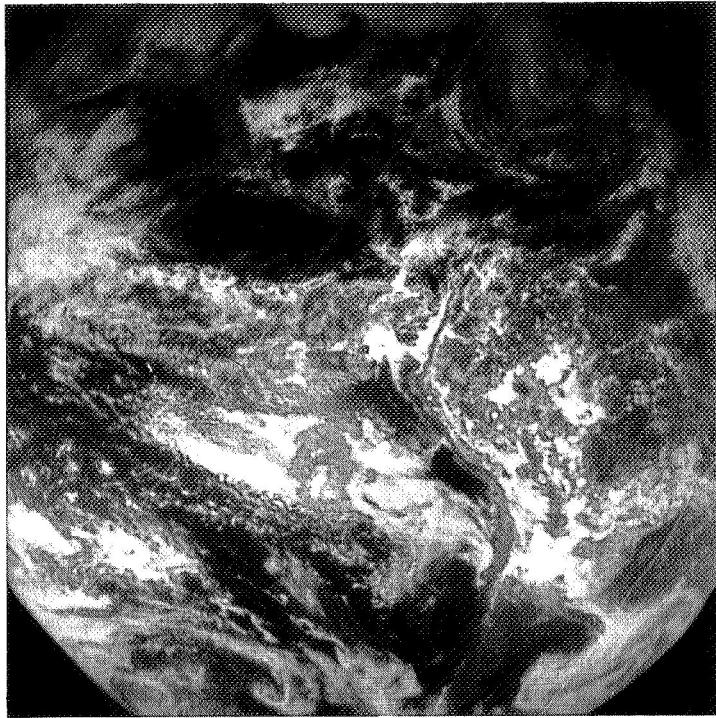
7 DEC 67 SUBSATELLITE PT 087.29W 00.20S

MSSCC	IDCS	TOTAL PICS
NO DATA AVAILABLE	SEQ START ZONE PICO REMI	
	01 15 09 16 00 3002 PIC	
	02 15 27 20 00 3002 EE	
	03 15 45 30 00 3002	
	04 16 03 58 00 3002 EE	
	05 16 22 00 00 3002 EE	
	06 16 40 26 00 3002 EE	
	07 16 58 50 00 3002 EE	
	08 17 16 50 00 3002	
	09 17 34 00 00 3000 SCR	
	10 17 52 25 00 3000 EE	
	11 18 10 40 00 3000 EE	
	12 18 28 56 00 3001 EE	
	13 18 47 10 00 3001 EE	
	14 19 05 30 00 3001 EE	
	15 19 23 47 00 3001 EE	

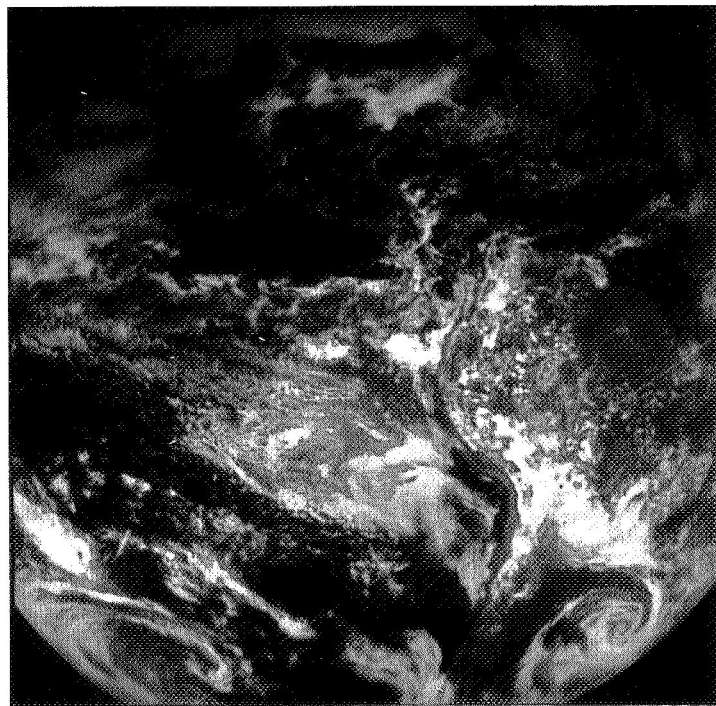
8 DEC 67 SUBSATELLITE PT 089.52W 00.19S

MSSCC	IDCS	TOTAL PICS
NO DATA AVAILABLE	SEQ START ZONE PICO REM	
	01 13 22 33 00 7000 NO	
	02 13 40 00 00 3002 P	
	03 13 58 12 00 4002 PE	
	04 14 16 25 00 3002 P	
	05 14 34 45 00 3002 P	
	06 14 53 02 00 3002 P	
	07 15 11 18 00 3002 P	
	08 15 29 35 00 3002 P	
	09 15 47 52 00 3002 P	
	10 16 06 08 00 3002 P	
	11 16 24 26 00 3002 P	
	12 16 42 40 00 3002 P	
	13 17 01 30 00 3002 P	
	14 17 19 45 00 3002 P	
	15 17 38 00 00 3002 P	
	16 17 56 20 00 3000 P	
	17 18 14 30 00 3000 P	
	18 18 32 53 00 3001 P	

9 THROUGH 27 DECEMBER 1967 NO DATA AVAILABLE



ATS-III IDCS 7DEC67 182856 SA 12



ATS-III IDCS 8DEC67 173800 PA 15

28 DEC 67 SUBSATELLITE PT 094.70W 00.31S

MSSCC TOTAL PICS 12

IDCS

SEQ	END	ZONE	PICQ	REMARKS
01	15 44 50	00	5002	CP
02	16 21 24	00	5002	CP
03	16 56 52	00	5002	CP
04	17 33 00	00	5002	CP
05	18 09 15	00	5502	CP
06	18 48 06	00	5000	PE CP
07	19 20 29	00	5000	PE CP
08	19 56 29	00	5001	CP
09	20 31 35	00	5001	CP
10	21 07 23	00	5001	CP
11	21 43 22	00	5001	CP
12	22 18 29	00	5001	CP

NO DATA AVAILABLE

29 DEC 67 SUBSATELLITE PT 094.71W 00.32S

MSSCC TOTAL PICS 2

IDCS

SEQ	END	ZONE	PICQ	REMARKS
01	14 40 37	00	5002	CP
02	15 16 54	00	5002	CP

NO DATA AVAILABLE

30 DEC 67 SUBSATELLITE PT 094.71W 00.32S

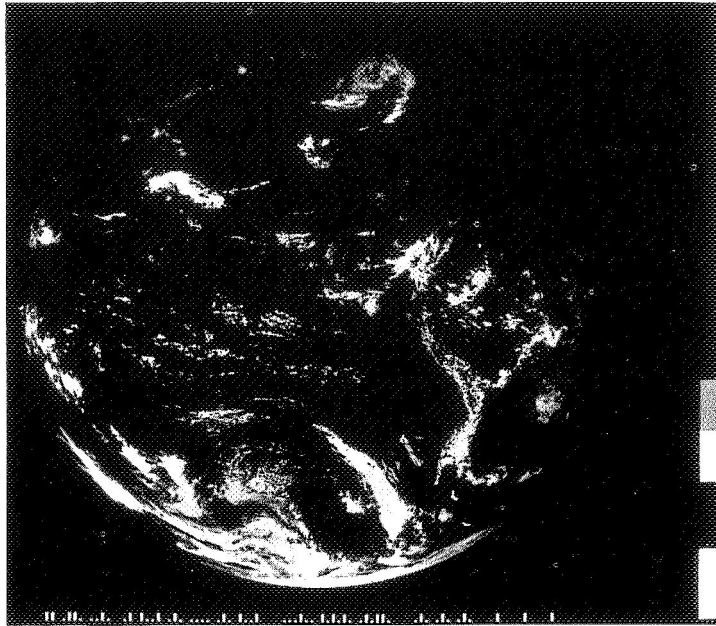
MSSCC

IDCS TOTAL PICS 7

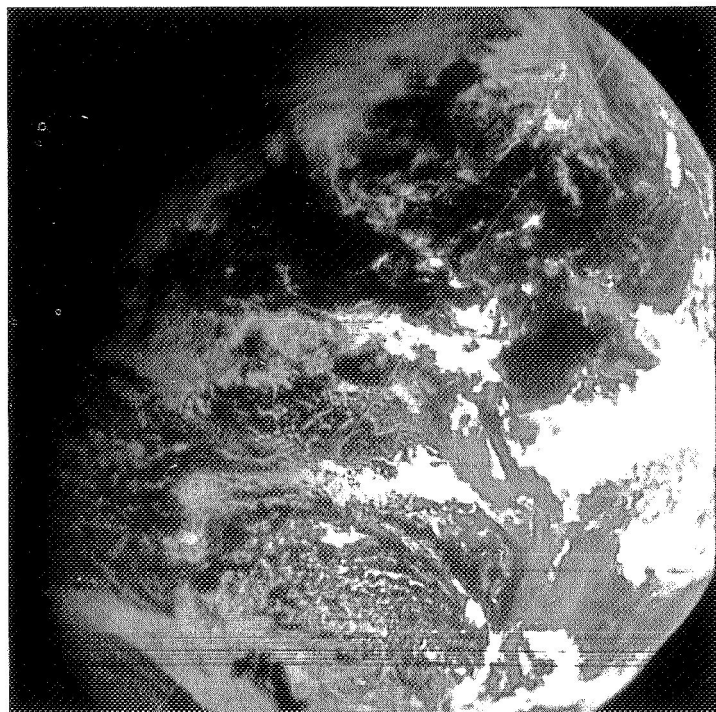
NO DATA AVAILABLE

SEQ	START	ZONE	PICQ	REMARKS
01	14 00 50	00	4002	
02	14 20 01	00	3002	
03	14 38 55	00	3002	
04	14 56 55	00	3002	
05	15 15 28	00	4502	
06	15 33 45	00	3002	EE
07	15 52 01	00	3002	

31 DECEMBER 1967 & 1 JANUARY 1968 NO DATA AVAILABLE



ATS-III MSSCC 28DEC67 192029Z 7N



ATS-III IDCS 30DEC67 145655Z SA 4

2 JAN 68 SUBSATELLITE PT 094.74W 00.36S

MSSCC

IDCS TOTAL PICS 7

NO DATA AVAILABLE

SEQ	START	ZONE	PICO	REMARKS
01	16 04 05	00	4002	EE
02	16 22 24	00	3002	EE
03	16 40 40	00	3002	
04	16 58 57	00	3002	EE
05	17 17 14	00	3002	EE
06	17 35 31	00	3002	EE
07	17 53 51	00	3002	EE

3 JAN 68 SUBSATELLITE PT 094.74W 00.36S

MSSCC TOTAL PICS 16

IDCS TOTAL PICS 6

SEQ	END	ZONE	PICO	REMARKS	SEQ	START	ZONE	PICO	REMARKS
01	15 12 00	00	7000		01	16 20 43	00	3002	
02	15 45 01	00	5002	CP	02	16 39 32	00	3002	PE
03	16 18 00	00	7000		03	16 57 50	00	3002	
04	16 49 48	00	5002	CP	04	17 16 10	00	3002	EE
05	17 06 00	00	7000		05	17 34 29	00	3002	
06	17 42 17	00	5002	CP	06	17 52 38	00	3002	
07	18 14 40	00	5002	CP					
08	18 47 04	00	7000						
09	19 19 27	00	5001	CP					
10	19 51 50	00	5001	CP					
11	20 24 13	00	5001	CP					
12	20 56 36	00	5001	CP					
13	21 59 56	00	5001	CP					
14	22 31 33	00	5001	CP					
15	23 04 39	00	5001	CP					
16	23 38 31	00	5001	CP					

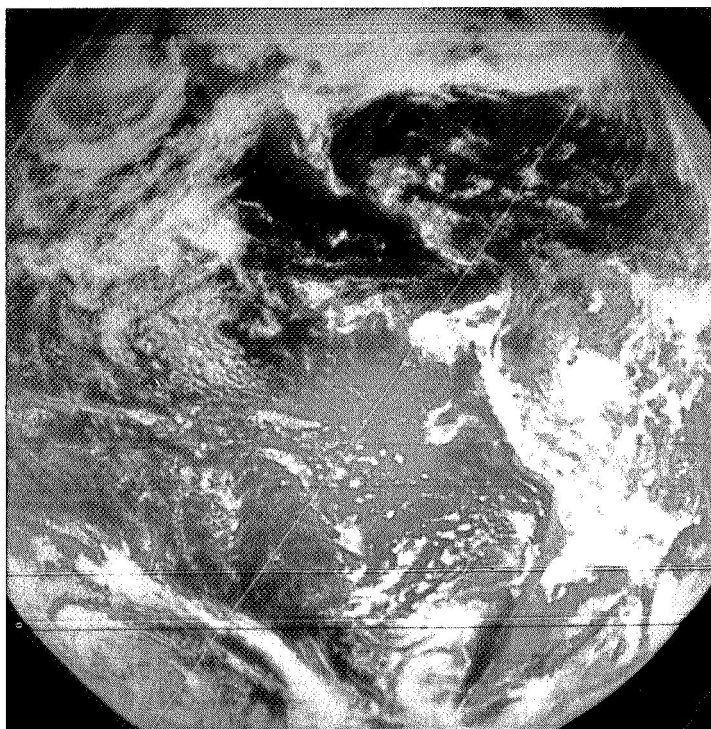
4 JAN 68 SUBSATELLITE PT 094.75W 00.37S

MSSCC TOTAL PICS 27

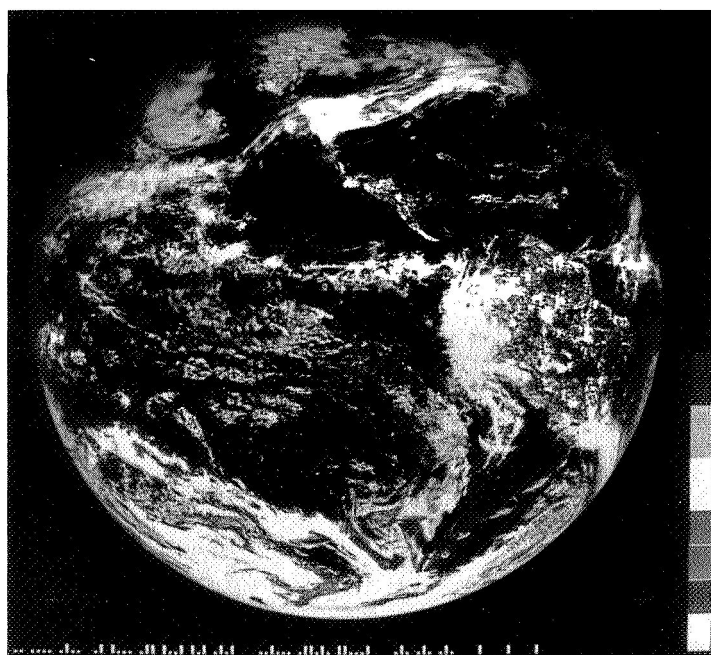
IDCS

NO DATA AVAILABLE

SEQ	END	ZONE	PICO	REMARKS
01	00 10 54	00	4001	CP
02	09 56 20	00	7000	
03	10 28 43	00	7000	
04	11 01 09	00	4002	CP PIC OFFSET
05	11 42 38	00	5002	CP
06	12 15 01	00	4002	CP
07	12 47 26	00	5002	CP PE
08	13 19 47	00	4002	CP
09	13 27 00	00	7000	
10	14 02 42	00	4002	CP
11	14 35 05	00	4002	CP
12	15 07 28	00	4002	CP
13	15 42 00	00	7000	
14	16 30 23	00	4002	CP
15	17 02 46	00	4002	CP
16	17 35 09	00	3002	CP
17	18 07 32	00	3002	CP
18	18 39 55	00	3002	CP
19	19 12 18	00	3001	CP
20	19 42 00	00	7000	
21	20 34 43	00	4001	CP
22	21 07 06	00	4001	CP
23	21 39 29	00	4001	CP
24	22 11 52	00	4001	CP
25	22 44 15	00	4001	CP
26	23 16 39	00	4001	CP
27	23 49 02	00	4001	CP



ATS-III IDCS 2JAN68 175351Z SA 7



ATS-III MSSCC 4JAN68 183955Z 18N

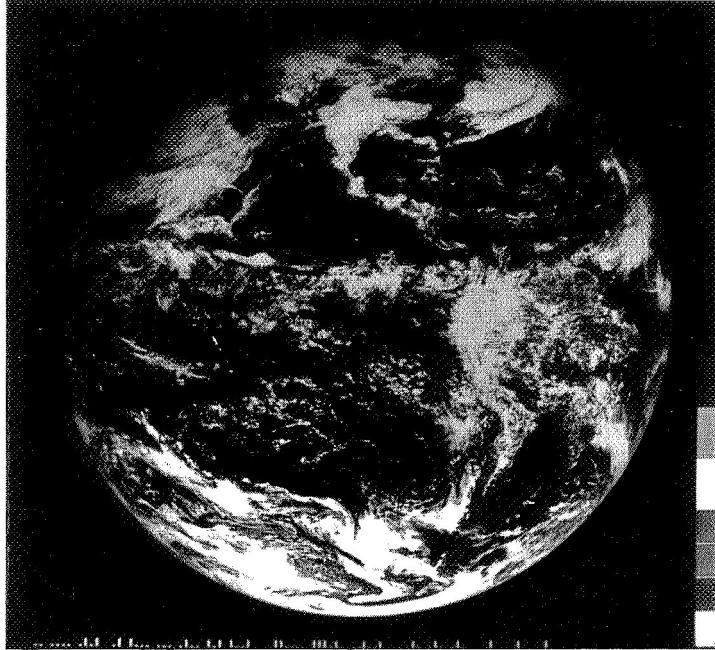
5 JAN 68 SUBSATELLITE PT 094.76W 00.37S

MSSCC TOTAL PICS 21

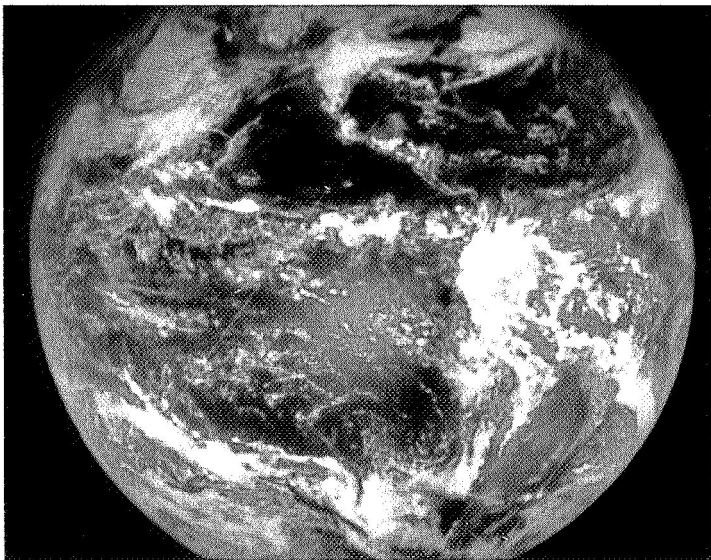
SEQ	END	ZONE	PICO	REMARKS
01	09 51 55	00	5502	CP
02	10 31 37	00	5002	CP
03	11 03 59	00	5002	CP
04	11 06 22	00	4002	CP
05	12 08 45	00	5002	CP
06	12 41 09	00	5002	CP
07	13 13 32	00	5002	CP
08	13 45 55	00	4502	CP
09	14 18 18	00	4002	CP
10	14 50 41	00	4002	CP
11	15 23 04	00	4002	CP
12	15 55 27	00	4002	CP
13	16 27 50	00	4002	CP
14	17 00 13	00	4002	CP
15	17 32 36	00	4002	CP
16	18 04 59	00	3002	CP
17	18 37 22	00	3002	CP
18	19 09 45	00	7000	
19	19 42 08	00	5001	CP
20	20 14 31	00	5001	CP
21	20 46 54	00	5001	CP

IDCS TOTAL PICS 38

SEQ	START	ZONE	PICO	REMARKS
01	12 18 40	00	4002	
02	12 37 44	00	4002	EE
03	12 56 10	00	4002	EE
04	13 14 18	00	4002	EE
05	13 32 38	00	4002	
06	13 50 52	00	3002	
07	14 09 13	00	3002	
08	14 27 25	00	3002	
09	14 45 45	00	3002	
10	15 04 05	00	3002	
11	15 22 17	00	3002	
12	15 40 37	00	3002	EE
13	15 58 55	00	3002	
14	16 17 12	00	3002	
15	16 35 20	00	3002	
16	16 53 50	00	3002	
17	17 12 10	00	3002	
18	17 30 24	00	3002	PE
19	17 48 03	00	3002	
20	18 06 57	00	4000	PE
21	18 25 14	00	3000	
22	18 43 30	00	3000	
23	19 01 45	00	3000	
24	19 20 00	00	4000	PE
25	19 38 15	00	3001	
26	19 56 37	00	3001	
27	20 14 52	00	3001	
28	20 33 10	00	3001	
29	20 45 44	00	3001	
30	21 09 30	00	4001	
31	21 27 50	00	4001	
32	21 46 07	00	4001	
33	22 04 26	00	4001	
34	22 22 45	00	4001	
35	22 41 00	00	4001	
36	22 59 14	00	4001	
37	23 17 36	00	4001	
38	23 35 52	00	4001	



ATS-III MSSCC 5JAN68 180459Z 16N



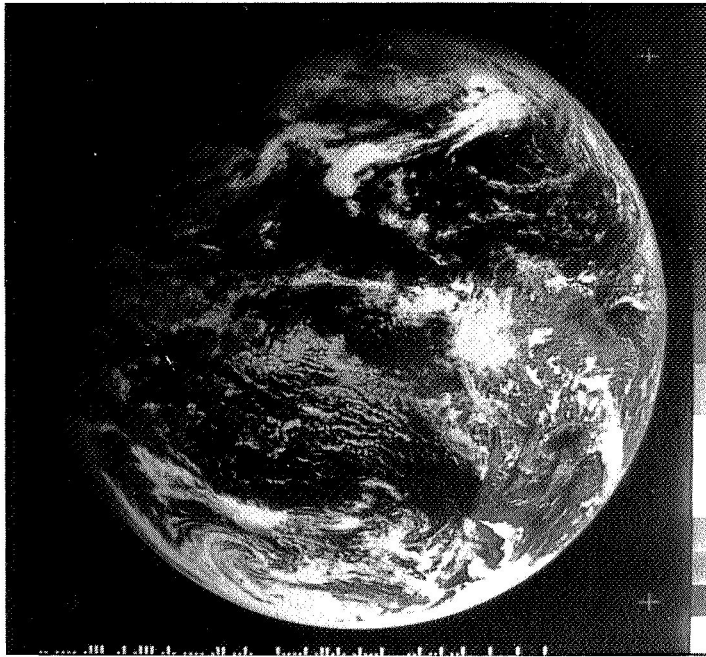
ATS-III IDCS 5JAN68 182514Z SA 21

6 JAN 68 SUBSATELLITE PT 094.77W 00.38S

MSSSC		TOTAL PICS		25		IDCS
SEQ	END	ZONE	PICO	REMARKS		
01	10 44 47	00	5002	CP		NO DATA AVAILABLE
02	11 16 34	00	5002	CP		
03	11 48 55	00	5002	CP		
04	12 21 18	00	5002	CP		
05	12 53 41	00	7000			
06	13 26 04	00	5002	CP		
07	13 58 26	00	5002	CP		
08	14 30 49	00	5002	CP		
09	15 03 12	00	7000			
10	15 34 26	00	5002	CP		
11	16 07 59	00	5002	CP		
12	16 40 22	00	5002	CP PE		
13	17 12 45	00	5002	CP PE		
14	17 45 08	00	7000			
15	18 17 31	00	7000			
16	18 49 54	00	7000			
17	19 22 17	00	5001	CP PE		
18	19 54 40	00	5001	CP PE		
19	20 27 03	00	5001	CP PE		
20	20 59 26	00	5001	CP PE		
21	21 32 35	00	5001	CP PE		
22	22 04 12	00	5001	CP PE		
23	22 36 35	00	5001	CP PE		
24	23 08 58	00	5001	CP PE		
25	23 41 21	00	5001	CP PE		

7 JAN 68 SUBSATELLITE PT 094.78W 00.40S

MSSCC		TOTAL PICS		25		IDCS
SEQ	END	ZONE	PICO	REMARKS		
01	00 13 44	00	5001	CP PE		NO DATA AVAILABLE
02	00 46 08	00	5001	CP PE		
03	01 18 31	00	5001	CP PE		
04	09 47 09	00	7000			
05	10 19 33	00	5002	CP		
06	10 51 56	00	5002	CP		
07	11 24 18	00	5002	CP		
08	11 56 41	00	5002	CP		
09	12 29 04	00	5002	CP		
10	13 01 27	00	5002	CP		
11	13 33 50	00	5002	CP		
12	14 06 14	00	4002	CP		
13	14 38 37	00	4002	CP		
14	15 11 00	00	4002	CP		
15	16 15 46	00	4002	CP		
16	16 48 09	00	4002	CP		
17	17 20 32	00	4002	CP		
18	17 52 55	00	4002	CP		
19	19 03 13	00	5001	CP		
20	19 35 36	00	5001	CP		
21	20 07 59	00	5001	CP		
22	20 40 22	00	5001	CP		
23	21 49 34	00	5001	CP		
24	23 00 00	00	5001	CP		
25	23 32 23	00	5001	CP		



ATS-III MSSCC 7JAN68 172032Z 17N

8 JAN 68 SUBSATELLITE PT 094.79W 00.41S

MSSCC					TOTAL PICS 10	IDCS
SEQ	END	ZONE	PICO	REMARKS		NO DATA AVAILABLE
01	00 04 46	00	4001	CP		
02	00 37 09	00	4001	CP		
03	01 09 32	00	4001	CP		
04	09 42 49	00	7000			
05	10 15 12	00	4002	CP		
06	10 47 36	00	4002	CP		
07	11 19 59	00	4002	CP		
08	12 56 56	00	7000			
09	13 29 19	00	4002	CP		
10	14 01 42	00	4002	CP		

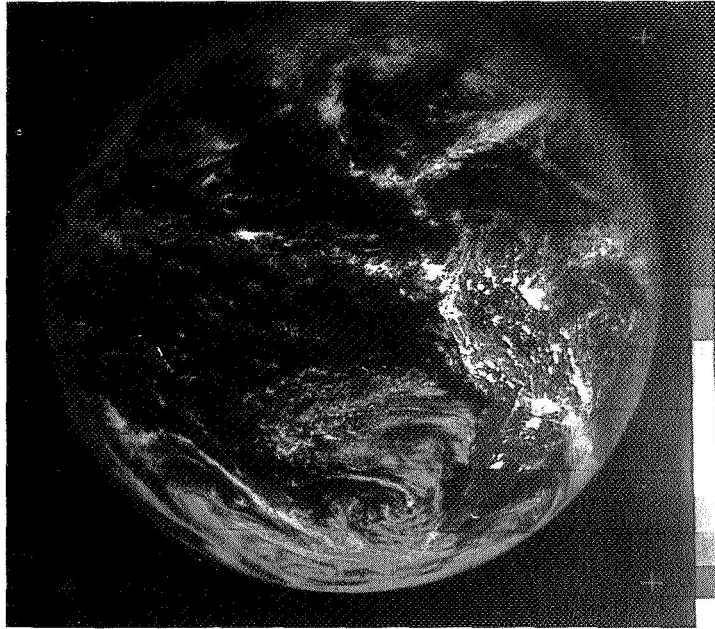
9 JAN 68 SUBSATELLITE PT 094.80W 00.41S

MSSCC					IDCS	TOTAL PICS 6			
NO DATA AVAILABLE					SEQ	START	ZONE	PICO	REMARKS
					01	17 06 00	00	3002	PE
					02	17 26 00	00	3002	EE
					03	17 44 50	00	3002	EE
					04	18 03 19	00	3000	EE
					05	18 21 18	00	3000	EE
					06	18 39 40	00	3000	EE

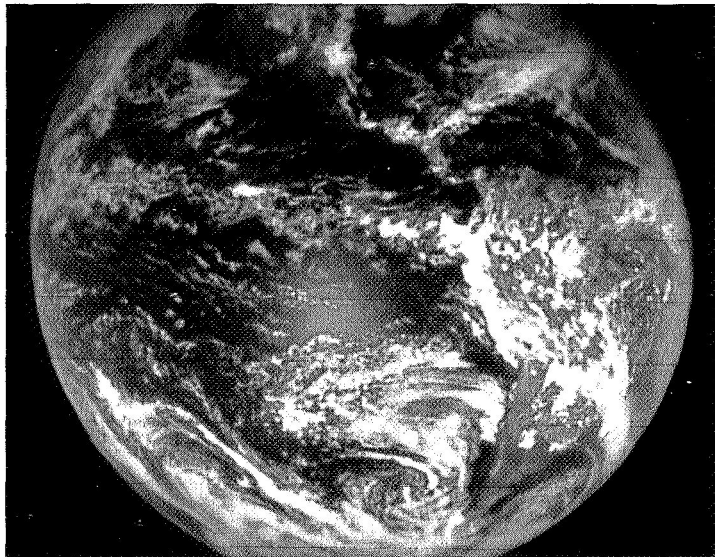
10 THROUGH 16 JANUARY 1968 NO DATA AVAILABLE

17 JAN 68 SUBSATELLITE PT 094.87W 00.50S

MSSCC					TOTAL PICS 8	IDCS	TOTAL PICS 37		
SEQ	END	ZONE	PICO	REMARKS	SEQ	START	ZONE	PICO	REMARKS
01	13 32 46	00	7000		01	12 40 40	00	4002	PE
02	14 05 09	00	5002	CP	02	13 00 00	00	4002	EE
03	14 37 32	00	4002	CP	03	13 17 50	00	3002	EE
04	15 09 55	00	4002	CP	04	13 36 10	00	3002	
05	15 22 05	00	7000		05	13 54 30	00	3002	
06	15 56 39	00	4002	CP	06	14 12 46	00	3002	
07	17 33 48	00	4002	CP	07	14 31 14	00	3002	EE
08	19 08 32	00	4001	CP	08	14 49 18	00	3002	EE
					09	15 07 20	00	3002	EE
					10	15 26 01	00	3002	EE
					11	15 44 10	00	3002	EE
					12	16 01 10	00	3002	EE
					13	16 20 44	00	3002	EE
					14	16 39 27	00	3002	EE
					15	16 57 43	00	3002	EE
					16	17 16 00	00	3002	EE PR
					17	17 34 16	00	3002	EE
					18	17 52 30	00	3002	EE PR
					19	18 10 56	00	3000	EE
					20	18 29 10	00	3000	EE
					21	18 47 18	00	3000	EE
					22	19 05 46	00	3001	EE
					23	19 23 58	00	3001	EE
					24	19 42 13	00	3001	EE
					25	20 00 38	00	3001	EE
					26	20 18 50	00	3001	EE
					27	20 37 06	00	4001	
					28	20 55 23	00	4001	
					29	21 13 41	00	4001	
					30	21 31 55	00	4001	EE
					31	21 50 15	00	4001	EE
					32	22 08 15	00	4001	EE
					33	22 26 33	00	4001	EE
					34	22 44 49	00	4001	EE
					35	23 02 06	00	4001	EE
					36	23 21 22	00	4001	EE
					37	23 39 45	00	4001	EE



ATS-III MSSCC 17JAN68 190832Z 8N



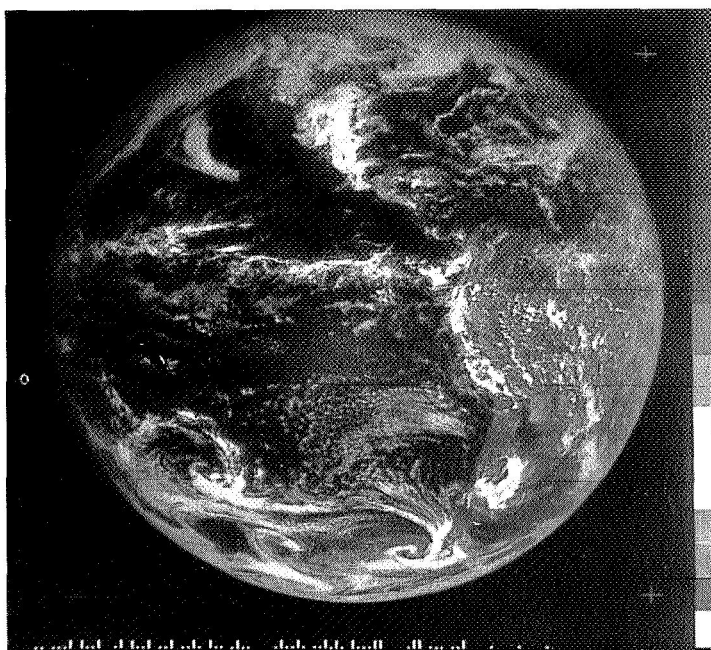
ATS-III IDCS 17JAN68 190546Z SA 22

18 JAN 68 SUBSATELLITE PT 094.89W 00.51S

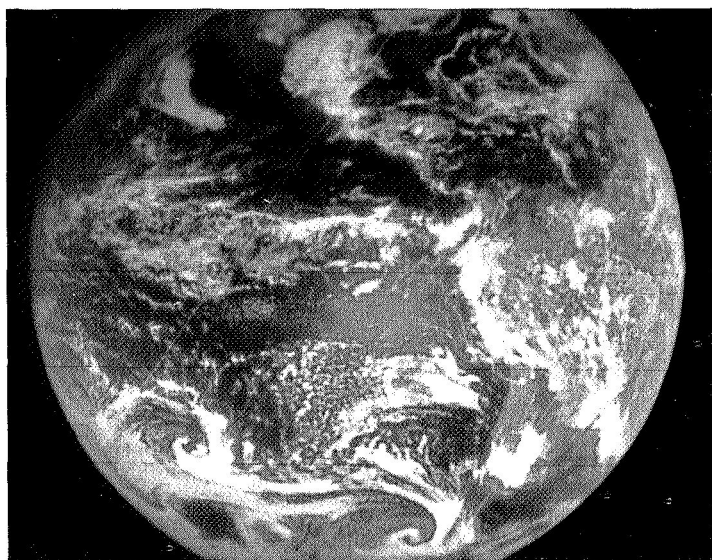
MSSCC					IDCS				
TOTAL PICS 14					TOTAL PICS 3				
SEQ	END	ZONE	PICQ	REMARKS	SEQ	START	ZONE	PICQ	REMARKS
01	00 12 14	00	7000		01	18 27 30	00	3500	EE
02	10 33 32	00	7000		02	18 47 00	00	3000	EE
03	11 08 29	00	7000		03	19 05 00	00	7000	
04	11 41 28	00	7000						
05	12 13 14	00	7000						
06	12 45 37	00	7000						
07	14 00 12	00	4502	CP					
08	14 48 42	00	7000						
09	15 01 15	00	7000						
10	19 01 20	00	3000						
11	19 33 43	00	3001						
12	22 39 09	00	7000						
13	23 10 31	00	7000						
14	23 42 55	00	7000						

19 JAN 68 SUBSATELLITE PT 094.90W 00.51S

MSSCC					IDCS				
TOTAL PICS 23					TOTAL PICS 2				
SEQ	END	ZONE	PICQ	REMARKS	SEQ	START	ZONE	PICQ	REMARKS
01	00 15 18	00	4501	CP	01	17 07 24	00	3002	EE
02	11 47 34	00	7000		02	17 42 32	00	3002	EE
03	12 19 57	00	7000						
04	12 52 20	00	4002	CP EE					
05	13 24 43	00	4002	CP					
06	13 57 06	00	4002	CP					
07	14 29 29	00	4002	CP					
08	15 01 52	00	4002	CP					
09	15 34 15	00	5002	CP EE					
10	16 06 38	00	5002	CP EE					
11	16 39 01	00	5002	CP EE					
12	17 35 35	00	3002	CP					
13	18 07 58	00	5002	CP EE					
14	18 40 56	00	4002	CP					
15	19 12 44	00	3000	CP					
16	19 45 07	00	3001	CP					
17	20 17 30	00	3001	CP					
18	20 49 54	00	3001	CP					
19	21 22 17	00	3001	CP					
20	21 54 40	00	3001	CP					
21	22 27 03	00	4001	CP					
22	22 59 26	00	5001	CP					
23	23 31 49	00	5001	CP					



ATS-III MSSCC 19JAN68 191244Z 15N



ATS-III IDCS 19JAN68 174232Z SA 2

20 JAN 68 SUBSATELLITE PT 094.92W 00.51S

MSSCC TOTAL PICS 32

IDCS

SEQ	END	ZONE	PICO	REMARKS
01	00 04 12	00	4001	CP
02	00 36 34	00	5001	CP
03	01 08 57	00	5001	CP
04	01 41 21	00	5001	CP
05	02 13 44	00	5001	CP
06	02 47 00	00	7000	
07	09 37 34	00	7000	
08	10 09 57	00	5002	CP
09	10 42 20	00	5002	CP
10	11 29 39	00	8000	MOON PIC
11	12 05 03	00	5002	CP
12	12 37 26	00	5002	CP
13	13 09 49	00	5502	CP
14	13 47 50	00	5502	CP PE
15	14 20 10	00	5002	CP PE
16	14 52 33	00	5002	CP
17	15 24 56	00	4002	CP
18	15 57 16	00	4002	CP
19	16 29 40	00	4002	CP
20	17 02 03	00	3002	CP
21	17 34 23	00	3002	CP
22	18 06 46	00	3002	CP
23	18 39 08	00	3002	CP
24	19 11 31	00	3000	CP
25	19 43 52	00	3001	CP
26	20 29 39	00	8000	MOON PIC
27	21 07 43	00	3001	CP
28	21 40 06	00	7000	
29	22 12 29	00	4001	CP
30	22 44 52	00	5001	CP PE
31	23 17 16	00	4001	CP
32	23 49 39	00	4001	CP

NO DATA AVAILABLE

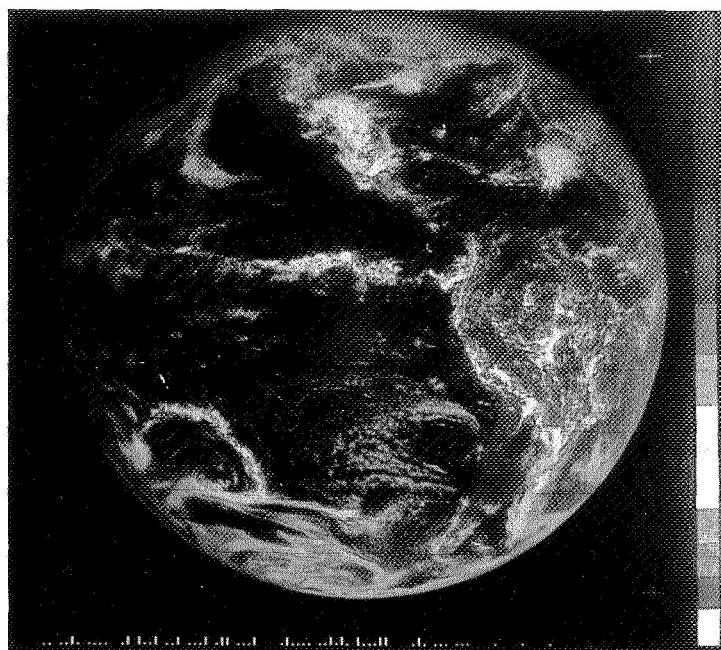
21 JAN 68 SUBSATELLITE PT 094.94W 00.52S

MSSCC TOTAL PICS 31

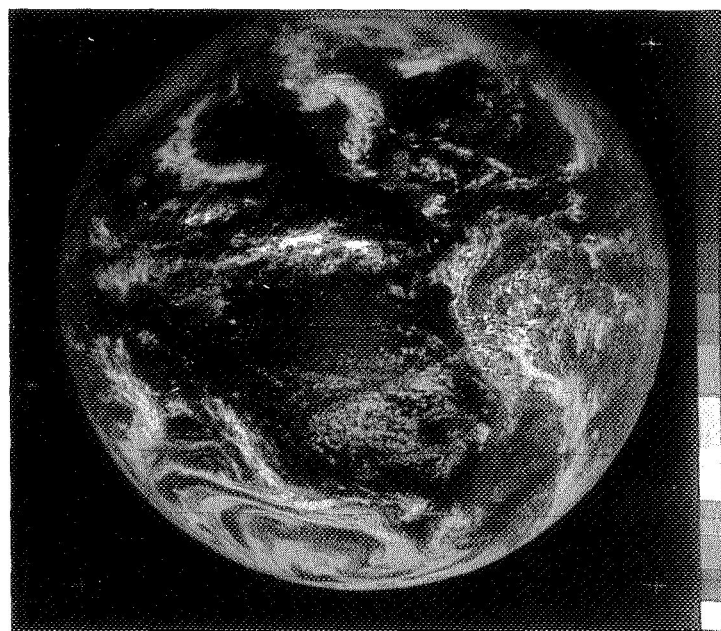
IDCS

SEQ	END	ZONE	PICO	REMARKS
01	00 22 01	00	4001	CP
02	00 54 21	00	4001	CP
03	01 26 44	00	5001	CP PE OFFSET
04	02 43 20	00	7000	
05	03 15 43	00	8000	
06	09 44 43	00	5002	CP
07	10 17 03	00	5002	CP
08	10 49 00	00	5002	CP
09	11 28 50	00	8000	
10	12 21 02	00	5002	CP
11	12 31 35	00	7000	
12	13 07 05	00	5002	CP
13	13 39 28	00	5002	CP
14	14 11 51	00	5502	CP PE
15	14 44 14	00	5002	CP
16	15 16 37	00	5002	CP
17	15 49 00	00	4002	CP
18	16 21 23	00	4002	CP
19	16 53 46	00	4002	CP
20	17 28 19	00	3000	CP
21	18 11 41	00	4000	CP
22	18 44 04	00	3001	CP
23	19 16 27	00	7000	
24	19 48 50	00	4002	CP
25	20 28 47	00	8000	
26	21 09 14	00	3501	CP
27	21 41 37	00	3001	CP
28	22 14 00	00	4001	CP
29	22 46 58	00	4001	CP
30	23 18 46	00	4001	CP
31	23 51 09	00	4001	CP

NO DATA AVAILABLE



ATS-III MSSCC 20JAN68 191131Z 24N



ATS-III MSSCC 21JAN68 191627Z 23N

22 JAN 68 SUBSATELLITE PT 094.96W 00.53S

MSSCC

IDCS TOTAL PICS 6

NO DATA AVAILABLE

SEQ	START	ZONE	PICQ	REMARKS
01	16 16 07	00	3002	
02	16 34 56	00	3002	PE EE
03	16 53 12	00	3002	EE
04	17 11 28	00	3002	EE
05	17 29 44	00	3002	
06	17 48 01	00	3002	

1

23 JAN 68 SUBSATELLITE PT 094.98W 00.54S

MSSCC

IDCS TOTAL PICS 6

NO DATA AVAILABLE

SEQ	START	ZONE	PICQ	REMARKS
01	16 11 38	00	4002	EE
02	16 30 27	00	3002	
03	16 48 40	00	3002	EE
04	17 06 48	00	3002	
05	17 25 03	00	3002	EE
06	17 43 20	00	3000	PE EE

24 JAN 68 SUBSATELLITE PT 094.99W 00.54S

MSSCC TOTAL PICS 6

IDCS TOTAL PICS 7

SEQ	END	ZONE	PICQ	REMARKS
01	17 17 15	00	4502	CP PE
02	17 49 38	00	5002	CP PE
03	18 22 01	00	4002	CP
04	18 54 24	00	4000	CP PE
05	19 26 47	00	4001	CP
06	19 59 10	00	4001	CP

SEQ	START	ZONE	PICQ	REMARKS
01	17 06 00	00	3002	EE
02	17 24 26	00	3002	
03	17 42 48	00	3002	EE
04	18 01 03	00	3000	
05	18 19 20	00	3000	
06	18 37 36	00	3000	
07	18 55 53	00	3000	

25 JAN 68 SUBSATELLITE PT 095.01W 00.55S

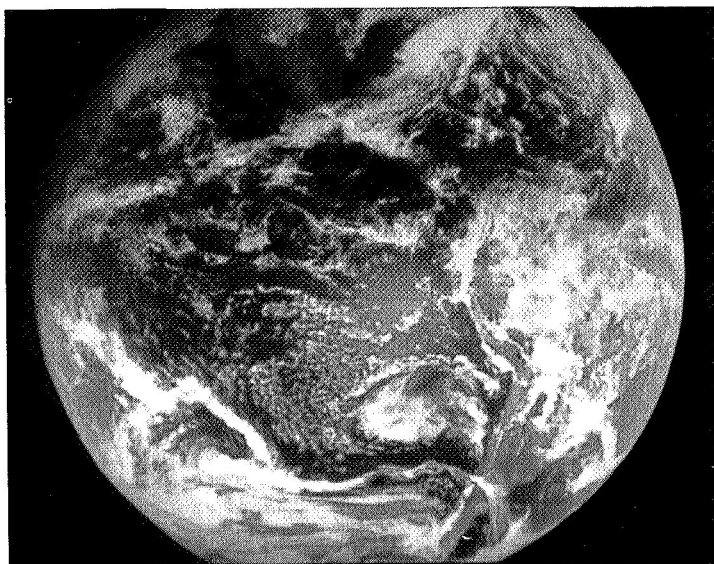
MSSCC TOTAL PICS 4

IDCS TOTAL PICS 6

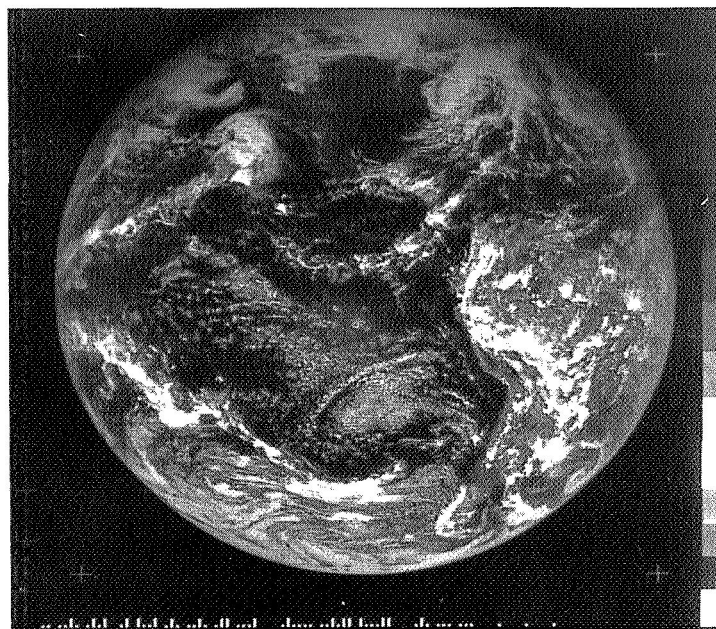
SEQ	END	ZONE	PICQ	REMARKS
01	17 45 21	00	5002	CP
02	18 17 45	00	4002	
03	18 50 08	00	7000	
04	19 22 31	00	4001	

SEQ	START	ZONE	PICQ	REMARKS
01	17 17 20	00	4002	
02	17 36 12	00	3002	
03	17 54 27	00	3002	
04	18 13 49	00	3000	EE
05	18 31 38	00	3000	EE
06	18 49 21	00	3000	EE

26 THROUGH 31 JANUARY 1968 NO DATA AVAILABLE



ATS-III IDCS 24JAN68 172426Z SA 2



ATS-III MSSCC 25JAN68 192231Z 4N

SECTION 4

ATS-III MSSCC AND IDCS TAPE LISTINGS

Data tapes are undergoing evaluation. Listing has not been released for this period.

PART III
THE ATS-I METEOROLOGICAL
DATA CATALOG

1 July 1967
through
31 January 1968

SECTION 1

INTRODUCTION

The Applications Technology Satellite, ATS-I, obtained 1282 Spin Scan Cloud Camera photographs during the period 1 July 1967 through 31 January 1968. A daily maximum of 49 photographs was obtained on 17 September 1967.

Data were not received on 46 days for one or both of the following reasons: (a) the experiment could not be operated because of conflict in schedule (30 days); and (b) ground equipment malfunction (16 days). Data were not received on the following 46 dates:

July 29
August 27, 28, 29, 30
September 1
October 10, 13, 27, 28
November 1, 2, 3, 4, 5, 6, 7, 8, 11, 13, 18
December 1, 2, 4, 5, 6, 15, 16, 31
January 1, 2, 3, 7, 8, 9, 10, 11, 12, 13, 15, 19, 21, 22, 23, 28

Changes in the ground induced display were initiated on 21 September 1967 as follows: a) Four fiducials, located outside the earth image area, replaced the original 12 fiducials discussed in Part I, Section 3.5 of Volume I, Meteorological Data Catalog for the Applications Technology Satellite. The fiducials are of fixed size and position with respect to each other. Figure 1-1 displays these relationships. b) A ten step gray scale and line count identifiers were added to the display. The size of each gray scale segment is equivalent to 192 scan lines and 127 Picture Element Pulses. A line (1-128 Picture Element Pulses) in the sync error display identifies each 192nd scan line.

Values assigned to each gray scale segment are as follows:

<u>SEGMENT</u>	<u>SHADE</u>	<u>FACSIMILE INPUT VOLTAGE</u>
1	Black	0.0
2		0.004
3		0.008
4		0.016
5		0.031
6		0.063
7		0.125
8		0.250
9		0.500
10	White	0.996

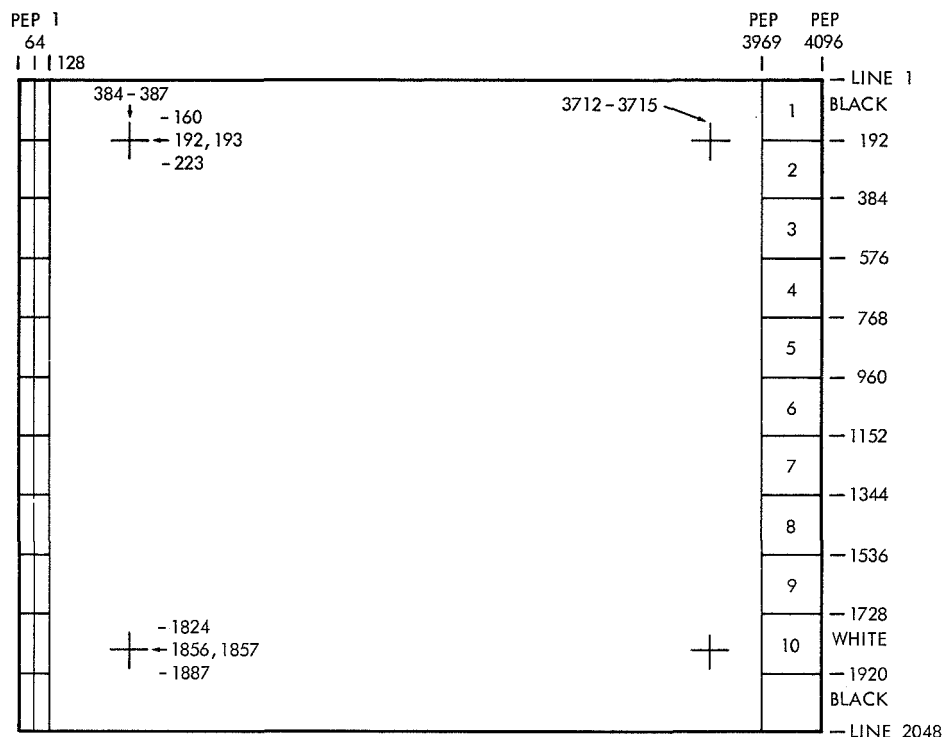


Figure 1-1. Ground Induced Display

These display changes were made permanent features on 25 September 1967. They appear on all photo-facsimile, analog and digital records.

Photographs of the moon continued to be acquired during the time period covered in this catalog. These data were recorded on 13 and 25 July 1967, 22 and 23 August 1967, 18, 19, and 20 September 1967, 16 October 1967, and 10 and 24 December 1967. In-flight calibration of the camera system was made based on August and September data.

The moon calibration shows the camera millivolt output at nominal gain settings to be: $Mv = 6.5$ Effective radiance of the Earth $\text{watts}/\text{M}^2/\text{Steradian}^{-1}$, and the digital values recorded on the magnetic tape at nominal gain settings to be: Effective radiance of the earth $\text{Watts}/\text{M}^2/\text{Steradian}^{-1} = 0.302$.

The first photographs from synchronous altitude displaying the life cycle of a tropical storm were taken during the period 6 through 24 September 1967. Hurricane/Typhoon Sarah was spawned on 6 September and traversed the breadth of the North Pacific Ocean in 18 days. The remnants of Sarah were evidenced as a gigantic extra-tropical storm near Kodiak on 24 September 1967 (Figure 1-2).

On 14 September 1967, six named storms, Opal, Vera, Sarah, Nanette, Monica and Beulah are shown simultaneously on one plate (Figure 1-3). Five named storms, Wanda, Sarah, Nanette, Monica and Beulah, are visible on a single picture taken on 19 September 1967 (Figure 1-4).



Figure 1-2. Hurricane/Typhoon Sarah

Effects of sun flare on the camera data again became a problem during the period 25 August 1967 through 11 October 1967 (Prior occurrence - 16 through 20 March 1967). However, a modification to the ground equipment reduced the effects of sun flare on the data. Very minor distortion or loss of sync due to sun flare activity can be observed in the data acquired during this period.

Insertion of erroneous Beta and Beta dot (earth-satellite-sun angle) data caused some distortion in the photographic data display. Evidence of this type of distortion can be observe in the pictures acquired on 6 September 1967 (sequence #3 and #4).

Operator error caused loss of some data on four pictures during this period This type of data loss can be observed in picture #15 on 21 October 1967.

Instances of poor film or processing techniques are rare, but do occur. Examples can be observed in picture #36 on 17 September 1967 and pictures #1 and #2 on 28 December 1967.

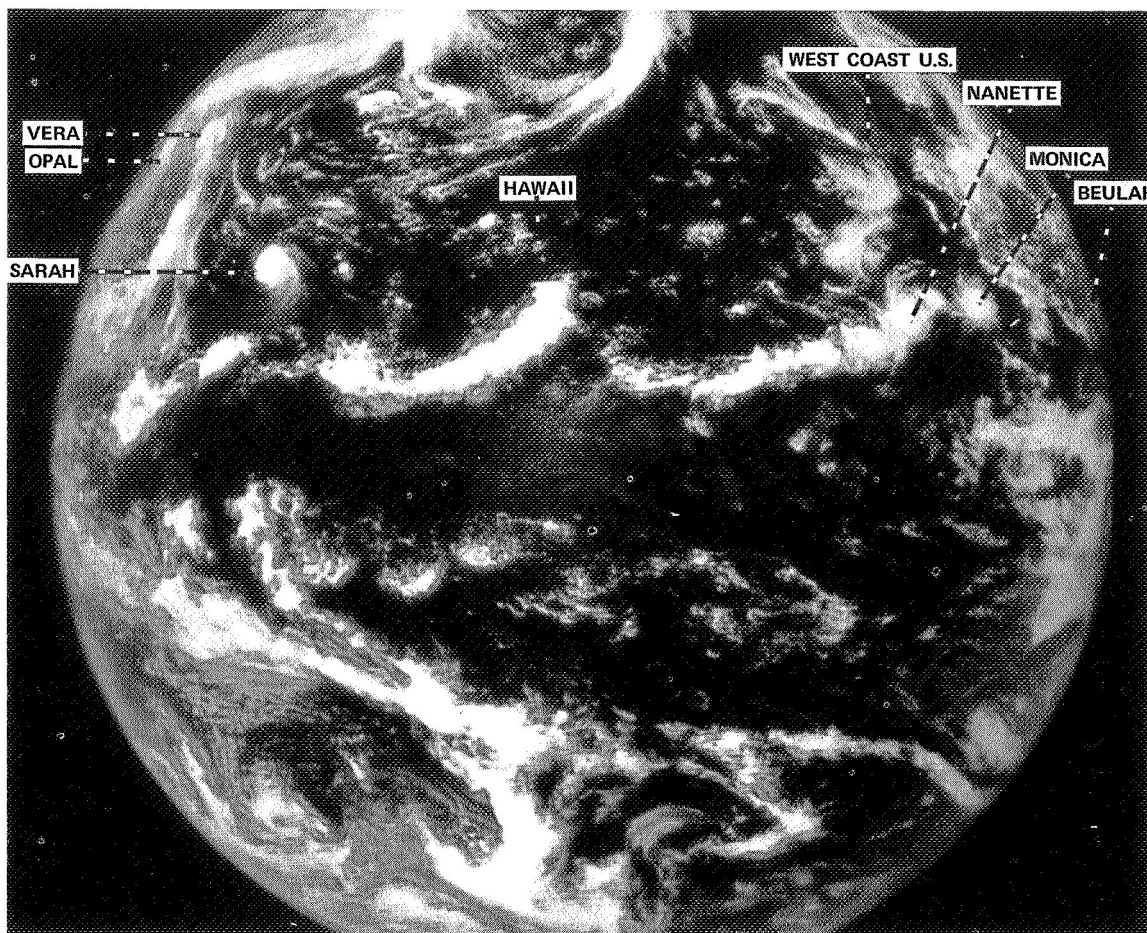


Figure 1-3. NASA SSCC Photograph, 14 September 1967

Time assigned to picture #1 on 11 August 1967 is an estimated time because original records were lost.

Small satellite attitude maneuvers were intentionally performed at 1700Z on 6 July 1967, 2000Z on 25 August 1967, 0800Z on 17 September 1967 and at 0800Z on 30 October 1967. Changes in attitude are readily reflected in the data display.

Manual grid matching continued during the period covered in the catalog. Gridding accuracies are estimated to be better than $\pm 1^\circ$ of great circle arc at the subsatellite point and to within 3° of great circle arc near earth horizons.

Spin Scan Cloud Camera photographic data are available from the National Weather Records Center. The procedure to be followed in ordering film is described in Section 6 of this catalog.

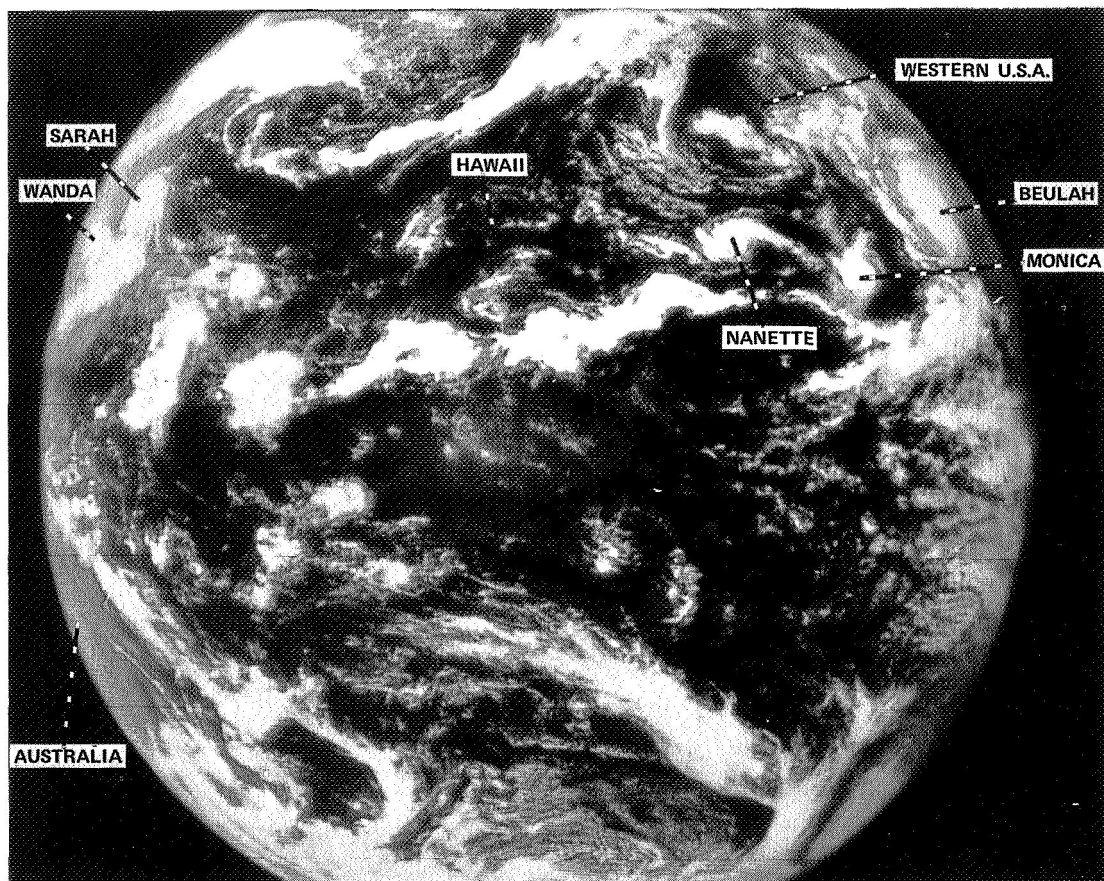


Figure 1-4. NASA SSSC Photograph, 19 September 1967

The following listing correlates reel number with dates for which pictorial data are available:

Reel 1	1 January through 20 January 1967
2	21 January through 17 February 1967
3	18 February through 11 March 1967
4	12 March through 4 April 1967
5	5 April through 17 April 1967
6	18 April through 22 April 1967
7	23 April through 30 April 1967
8	1 May through 31 May 1967
9	1 June through 30 June 1967
10	1 July through 4 August 1967
11	5 August through 10 September 1967
12	11 September through 6 October 1967
13	7 October through 18 November 1967
14	19 November through 31 December 1967
15	1 January 1968 through 31 January 1968 (Reel will contain additional ATS-I data)

SECTION 2

ATS-I ORBITAL DATA

This section contains a listing of the orbital elements. These data may be used by those who desire to compute the ephemeris.

ORBITAL ELEMENTS

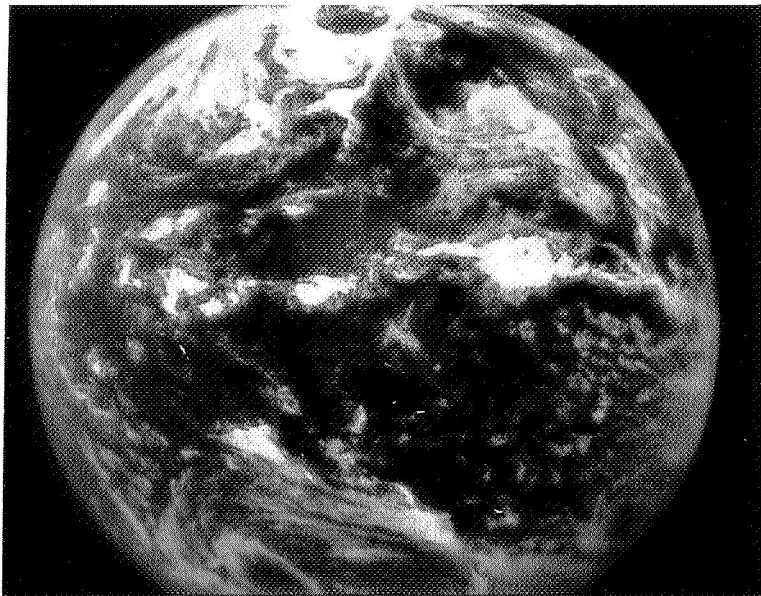
Valid Time (UT)	Semi-Major Axis (Km)	Eccen- tricity	Inclina- tion (Deg)	Mean Anomaly (Deg)	Arg of Perigee (Deg)	Arg of Perigee/ Motion (Deg/Day)	Rt Ascen of A Node (Deg)	Rt Ascen of A Node/ Motion (Deg/Day)	Anomallistic Period (Min)	Anomallistic Period/ Motion (Min/Day)	Rt of Perigee (Km)	Rt of Apogee (Km)	Vel at Perigee (Km/Hr)	Vel at Apogee (Km/Hr)	Geocentric Lat of Perigee (Deg)	Spin Rate (Rpm)
0000/01 Jul 67 0000/09 Jul 67	42163.86	0.00021	0.241	298.090	252.921	0.0268	297.575	0.0134	1436.04508	0.0000	35776.73	35704.67	11071	11067	00.2308	94.32
0000/09 Jul 67 0000/12 Jul 67	42162.38	0.00020	0.214	011.034	248.425	0.0268	301.446	0.0134	1435.96939	0.0000	35775.76	35792.67	11071	11067	00.1998	94.31
0000/12 Jul 67 0100/19 Jul 67	42163.48	0.00017	0.203	100.501	257.111	0.0268	300.802	0.0134	1436.02566	0.0000	35778.20	35792.44	11071	11067	00.1985	94.31
0100/19 Jul 67 0900/26 Jul 67	42165.06	0.00017	0.191	212.564	224.867	0.0268	306.003	0.0134	1436.10603	0.0000	35779.83	35793.95	11071	11067	00.1355	94.30
0000/26 Jul 67 1903/03 Aug 67	42164.49	0.00015	0.162	084.884	237.113	0.0268	304.418	0.0134	1436.07684	0.0000	35779.85	35792.79	11070	11067	00.1365	94.30
1903/03 Aug 67 0000/09 Aug 67	42165.77	0.00018	0.145	273.264	224.615	0.0268	309.529	0.0134	1436.14270	0.0000	35780.11	35795.11	11071	11067	00.1025	94.28
0000/09 Aug 67 0000/20 Aug 67	42165.26	0.00016	0.123	077.666	247.211	0.0268	308.294	0.0134	1436.11624	0.0000	35780.40	35793.79	11070	11067	00.1145	94.26
0000/20 Aug 67 0000/23 Aug 67	42168.10	0.00024	0.097	353.124	228.802	0.0268	316.317	0.0134	1436.26143	0.0000	35779.97	35799.89	11071	11066	00.0735	94.24
0000/23 Aug 67 1700/01 Sep 67	42169.67	0.00011	0.091	212.280	239.546	0.0268	318.831	0.0134	1436.34188	0.0000	35786.86	35796.16	11069	11067	00.0795	94.24
1700/01 Sep 67 0000/09 Sep 67	42168.82	0.00018	0.077	228.468	237.949	0.0268	324.025	0.0134	1436.29835	0.0000	35783.07	35798.24	11070	11066	00.0655	94.22
0000/09 Sep 67 0900/17 Sep 67	42169.56	0.00021	0.069	356.342	230.026	0.0268	330.485	0.0134	1436.33631	0.0000	35782.64	35800.16	11070	11066	00.0535	94.21
0900/17 Sep 67 1330/22 Sep 67	42168.75	0.00010	0.050	106.833	230.507	0.0268	347.745	0.0134	1436.29482	0.0000	35786.25	35794.92	11069	11067	00.0395	94.21
1330/22 Sep 67 0830/27 Sep 67	42168.67	0.00009	0.058	172.339	227.430	0.0268	005.349	0.0134	1436.29073	0.0000	35786.91	35794.10	11069	11067	00.0435	94.21
0830/27 Sep 67 2330/04 Oct 67	42167.87	0.00019	0.052	105.768	237.584	0.0268	351.649	0.0134	1436.24963	0.0000	35781.83	35797.57	11070	11066	00.0445	94.21
2330/04 Oct 67 1930/13 Oct 67	42164.83	0.00015	0.048	352.118	193.558	0.0268	021.948	0.0134	1436.09437	0.0000	35780.50	35792.82	11070	11067	00.0115	94.19
1930/13 Oct 67 0230/20 Oct 67	42163.75	0.00012	0.068	312.674	169.951	0.0268	033.854	0.0134	1436.03926	0.0000	35780.61	35790.55	11070	11068	00.012N	94.18
0230/20 Oct 67 0230/28 Oct 67	42164.80	0.00021	0.070	024.011	206.321	0.0268	037.362	0.0134	1436.09312	0.0000	35777.72	35795.55	11071	11066	00.0315	94.17
0230/28 Oct 67 1530/02 Nov 67	42164.67	0.00021	0.090	016.251	212.223	0.0268	047.503	0.0134	1436.08609	0.0000	35777.82	35795.18	11071	11066	00.0485	94.15
1530/02 Nov 67 0000/11 Nov 67	42164.55	0.00013	0.096	225.246	203.431	0.0268	047.828	0.0134	1436.08014	0.0000	35780.83	35791.94	11070	11067	00.0385	94.13
0000/11 Nov 67 0000/18 Nov 67	42164.08	0.00015	0.123	024.528	178.672	0.0268	056.125	0.0134	1436.05609	0.0000	35779.46	35792.36	11071	11067	00.003N	94.12
0000/18 Nov 67 2230/24 Nov 67	42164.56	0.00025	0.138	018.405	192.695	0.0268	055.261	0.0134	1436.08041	0.0000	35775.72	35797.06	11072	11066	00.0305	94.12
2230/24 Nov 67 0000/02 Dec 67	42165.92	0.00027	0.160	354.445	188.778	0.0268	060.685	0.0134	1436.14998	0.0000	35776.50	35799.01	11072	11066	00.0245	94.11
0000/02 Dec 67 0030/08 Dec 67	42166.44	0.00020	0.280	072.729	172.917	0.0268	034.714	0.0134	1436.17645	0.0000	35779.99	35796.54	11071	11066	00.035N	94.11
0030/08 Dec 67 1130/14 Dec 67	42165.81	0.00024	0.200	031.690	189.750	0.0268	065.396	0.0134	1436.14468	0.0000	35777.69	35797.61	11071	11066	00.0345	94.09
1130/14 Dec 67 2330/19 Dec 67	42169.39	0.00013	0.215	209.937	185.168	0.0268	065.628	0.0134	1436.32739	0.0000	35785.86	35796.58	11070	11067	00.0195	94.08
2330/19 Dec 67 0000/27 Dec 67	42170.35	0.00022	0.238	021.231	194.595	0.0268	067.626	0.0134	1436.37644	0.0000	35782.72	35801.65	11071	11066	00.0605	94.08
0000/27 Dec 67 0000/02 Jan 68	42167.84	0.00011	0.249	056.661	176.750	0.0268	070.247	0.0134	1436.24830	0.0000	35785.04	35794.31	11070	11067	00.014N	94.07
0000/02 Jan 68 2200/09 Jan 68	42169.00	0.00017	0.276	045.190	193.382	0.0268	070.821	0.0134	1436.30749	0.0000	35783.61	35798.06	11070	11066	00.0645	94.06
2200/09 Jan 68 0000/16 Jan 68	42166.99	0.00018	0.292	017.348	182.016	0.0268	073.619	0.0134	1436.20464	0.0000	35781.02	35796.62	11071	11066	00.0105	94.06
0000/16 Jan 68 1330/25 Jan 68	42166.83	0.00021	0.319	049.549	199.209	0.0268	075.234	0.0134	1436.19675	0.0000	35780.02	35797.32	11071	11066	00.1055	94.06
1330/25 Jan 68 0000/03 Feb 68	42164.87	0.00006	0.339	261.381	190.220	0.0268	077.353	0.0134	1436.09649	0.0000	35784.19	35789.22	11069	11068	00.0605	93.90

SECTION 3
THE ATS-I METEOROLOGICAL
DATA CATALOG

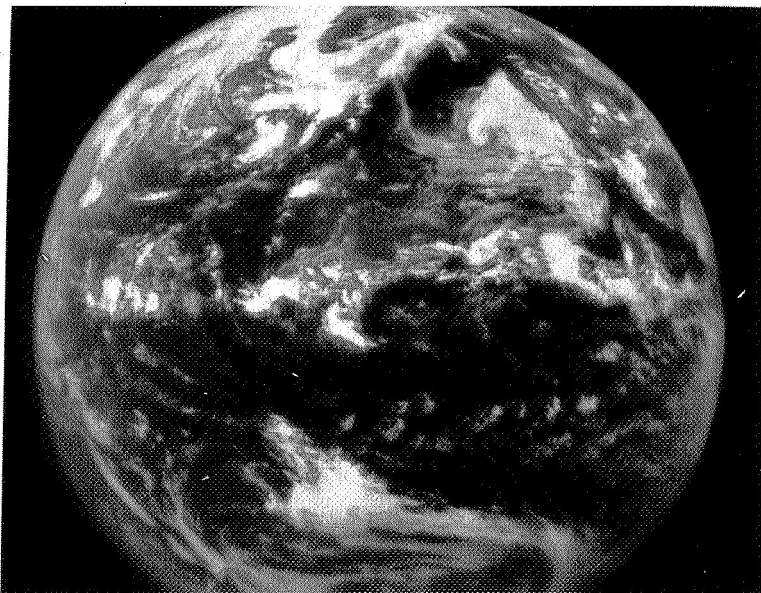
1 July 1967
through
31 January 1968

1 JUL 67				SUBSATELLITE PT 150.78W 00.08N				TOTAL PICS 8	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	04 00 30	00	4001						
02	18 14 14	10	4002	2145C	2140A	1100B	2240G 2230E 4200H	US MEXICO	
02	18 14 14	20	4000	2240A	2140A	4200A		MEXICO	
02	18 14 14	50	4002	2140K	2240F				
02	18 14 14	60	4000	2140A	2240A				
03	19 52 13	00	3002						
04	20 15 48	00	3002						
05	20 39 23	00	3002						
06	21 02 08	00	3000						
07	21 26 33	00	3000						
08	21 50 08	05	5000	5000A					
08	21 50 08	10	3000	1100F	2145C	2140A	2240G 2230E 4200H	US MEXICO EE	
08	21 50 08	20	4000	2140A	2240A	4200A		US MEXICO EE	
08	21 50 08	40	4000	2140A	2230A			EE	
08	21 50 08	50	1000	2140A	2240F			EE	
08	21 50 08	60	4000	2140A	2240A			EE	
08	21 50 08	80	4000	2140A				EE	

2 JUL 67				SUBSATELLITE PT 150.76W 00.08N				TOTAL PICS 8	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 34 08	00	4001					EE	
02	18 17 12	10	3002	1100F	2140A	2240G 2230G		US MEXICO EE	
02	18 17 12	20	4000	2240A	1100A	2140A	2230A 4200A 4610E	US MEXICO EE	
02	18 17 12	40	5002	5000A				EE	
02	18 17 12	50	1002	1100E	2140A	2240F		EE	
02	18 17 12	60	4000	2240A	2140A			EE	
03	19 50 17	00	3002					EE	
04	20 13 52	00	3002					EE	
05	20 37 27	00	3002					EE	
06	21 01 02	00	3002					EE	
07	21 24 37	00	3002					EE	
08	21 48 12	05	5000	5000A				EE	
08	21 48 12	10	3000	1100M	2140A	2240G 2230G 4200H 4610G		US MEXICO EE	
08	21 48 12	20	4000	1100A	2240A	2140A		US MEXICO EE	
08	21 48 12	40	4000	2140A	2230A			EE	
08	21 48 12	50	1000	2140A	1100E	2240F 2230I		EE	
08	21 48 12	60	4000	2140A	2240A			EE	
08	21 48 12	80	4000	2140A				EE	



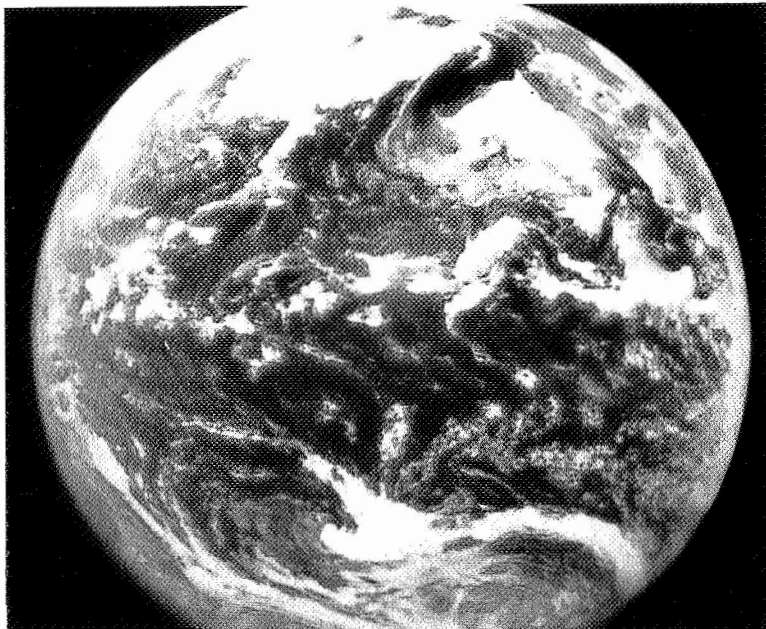
ATS-I 1 JUL 67 21 50 08 Z SEQ 8



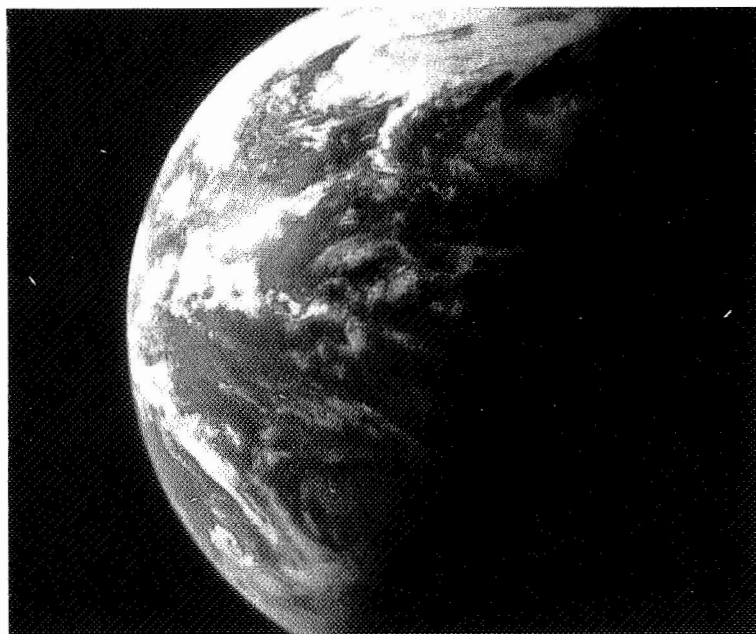
ATS-I 2 JUL 67 21 48 12 Z SEQ 8

3 JUL 67				SUBSATELLITE PT 150.74W 00.07N				TOTAL PICS 9	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 45 26	00	4001						
02	18 13 44	10	3002	1100M	2140A	2240G	2230E 4200H 4610E	US MEXICO	
02	18 13 44	20	4000	2140A	2230A	2240A	4200A	US MEXICO	
02	18 13 44	40	5002	5000A					
02	18 13 44	50	1002	2140A	1100G	2240F			
02	18 13 44	60	4000	2140A	2240A				
03	19 08 19	00	3002					EE	
04	19 31 53	00	3002					EE	
05	19 55 29	00	3002					EE	
06	20 19 03	00	3002						
07	20 42 41	00	3002						
08	21 06 17	00	3000						
09	21 29 52	10	3000	1100M	2140A	2240G	2230G 4200H 4610G	US MEXICO	
09	21 29 52	20	4000	2240A	2140A	4200A		US MEXICO	
09	21 29 52	40	4000	2140A					
09	21 29 52	50	1000	2145I	2140A	1100M	2240F		
09	21 29 52	60	4000	2140A	2240A				
09	21 29 52	80	4000	2140A	4200A			ASTR	

4 JUL 67				SUBSATELLITE PT 150.72W 00.07N				TOTAL PICS 1	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 34 37	10	4001	1100F	2140A	2240G	2230D		
01	03 34 37	40	4000	2140A	2240A				
01	03 34 37	50	4001	3100I	2240C				
01	03 34 37	80	4000	2140A	1100A	4200A	2240A	ASTR	



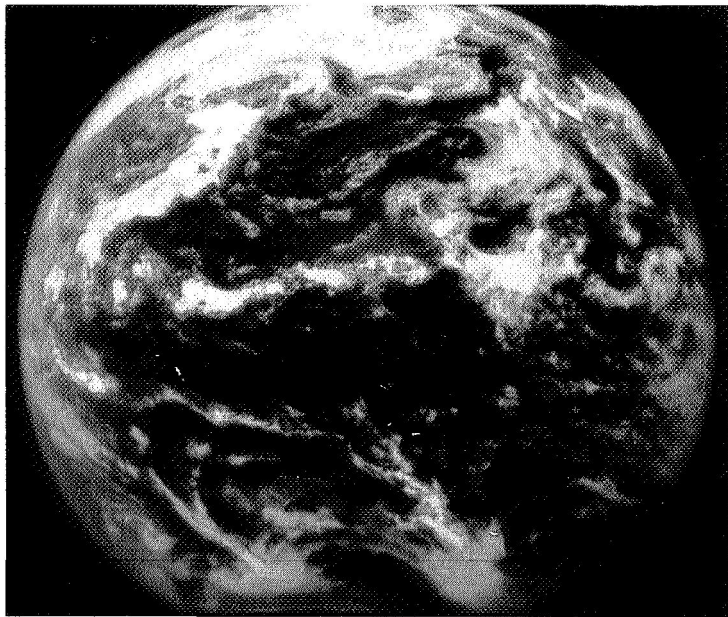
ATS-I 3 JUL 67 21 29 52 Z SEQ 9



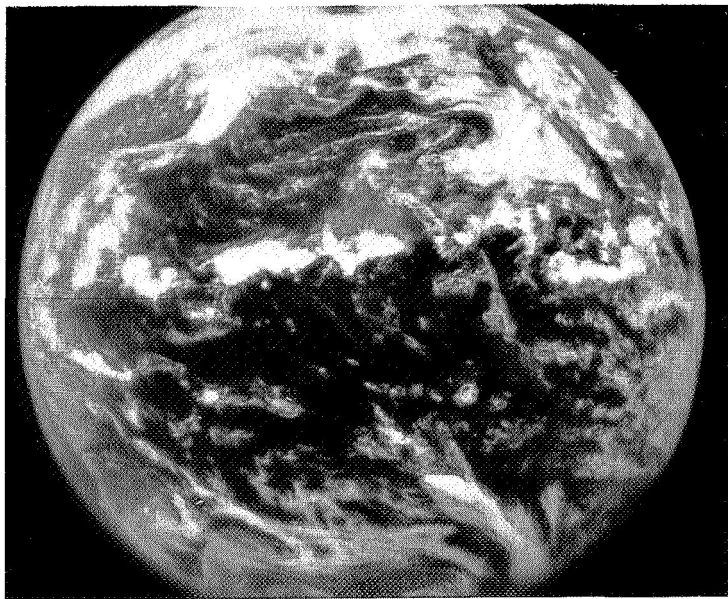
ATS-I 4 JUL 67 03 34 37 Z SEQ 1

5 JUL 67				SUBSATELLITE PT 150.69W 00.07N				TOTAL PICS 8	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 11 42	10	4002	1100F	2140A	2240G	2230E 4610E 3100J		
01	18 11 42	20	4000	2230A	2240A	4200A		US MEXICO	
01	18 11 42	40	5002	5000A					
01	18 11 42	50	1002	2143E	2141A	2142H	2240B		
01	18 11 42	60	4000	2142A	2240A				
02	19 59 37	00	4002						
03	20 23 12	00	4002						
04	20 46 47	00	4002						
05	21 10 22	00	1002						
06	21 33 57	00	1002						
07	21 57 32	05	5000	5000A					
07	21 57 32	10	3000	1113F	2140A	2240G	2230E 3100A 4200H	US MEXICO	
07	21 57 32	20	4000	2140A	2240A	4200A		US MEXICO	
07	21 57 32	40	4000	2140A	2240A				
07	21 57 32	50	1000	2143G	2141A	2142H	2240B 1113D 3100I		
07	21 57 32	60	4000	2240A	2142A				
07	21 57 32	80	4000	2141A	1100A	2240A	4200A	ASTR	
08	22 21 07	00	3000						

6 JUL 67				SUBSATELLITE PT 150.66W 00.07N				TOTAL PICS 9	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 55 14	00	4001						
02	18 02 12	10	3002	1113B	2142B	2141B	2240G 2230E 3100I	US MEXICO	
02	18 02 12	20	4000	2230A	2240A	2140A	4200A	US MEXICO	
02	18 02 12	50	1002	2142M					
02	18 02 12	60	4000	2240A					
03	21 09 28	00	3000						
04	21 33 07	00	3000						
05	21 56 41	10	3000	2143F	1113C	2142I	2240G 2230G 4200H	US MEXICO	
05	21 56 41	20	4000	2140A	2240A	2230A	4200A	US MEXICO	
05	21 56 41	40	4000	2140A	2230A				
05	21 56 41	50	1000	1113D	2143D	2142A	2141G 2240B		
05	21 56 41	60	4000	2240A					
05	21 56 41	80	4000	2142A	2240A	1114A	4200A	ASTR	
06	22 20 16	00	3000						
07	22 43 53	00	3001						
08	23 07 29	00	3001						
09	23 31 01	00	3001					EE	



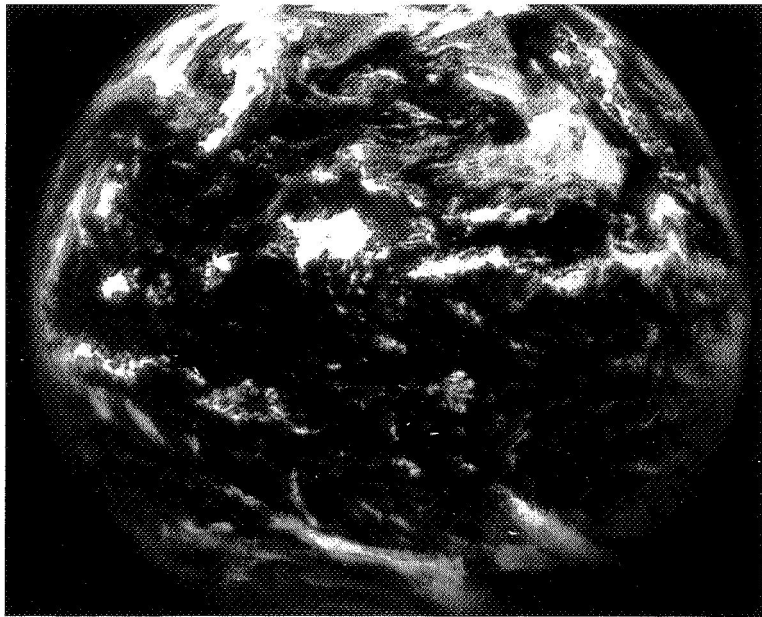
ATS-I 5 JUL 67 21 57 32 Z SEQ 7



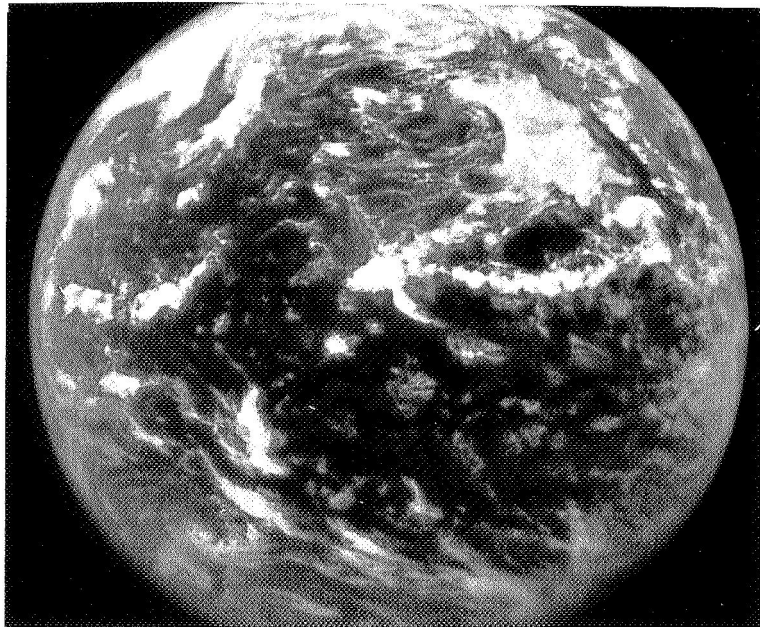
ATS-I 6 JUL 67 21 56 41 Z SEQ 5

7 JUL 67				SUBSATELLITE PT 150.63W 00.06N				TOTAL PICS 9	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 51 02	00	4001						
02	18 04 49	10	4002	1220E	2240G	2142B	1114C 3100A 4200A	US MEXICO PC	
02	18 04 49	20	4000	2240A	4200A			US MEXICO PC	
02	18 04 49	50	4002	2141H				PC	
02	18 04 49	60	4000	2240A				PC	
03	21 09 10	00	4002					PC	
04	21 32 45	00	4002					PC	
05	21 56 19	10	4000	1113C	1220E	2240G	2230D 2142I 3100A	PC US MEXICO	
05	21 56 19	20	4000	2240A	4200A			PC US MEXICO	
05	21 56 19	40	4000	2140A	2230A			PC	
05	21 56 19	50	4000	2142A	1114D			PC	
05	21 56 19	60	4000	2240A				PC	
05	21 56 19	80	4000	2142A	2240A	4200A		PC ASTR	
06	22 19 55	00	3000						
07	22 43 33	00	3000						
08	23 07 08	00	3001						
09	23 30 43	00	3001						

8 JUL 67				SUBSATELLITE PT 150.60W 00.06N				TOTAL PICS 8	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 55 04	00	4001						
02	17 58 38	10	3002	6043E	1220E	2240G	3100A 2230E 4200H	US MEXICO	
02	17 58 38	20	4000	2240A	2230A	4200A		US MEXICO	
02	17 58 38	50	1002	2142G	2143E	2240F			
02	17 58 38	60	4000	2240A					
03	21 27 48	00	3000						
04	21 51 23	10	3000	6043E	1220E	2240G	2230G 3100A 4200H	US MEXICO	
04	21 51 23	20	4000	2140A	4200A	2240A		US MEXICO	
04	21 51 23	40	4000	2240A	1113A	2140A			
04	21 51 23	50	4000	2142K	2230C	2240F			
04	21 51 23	60	4000	2240A					
04	21 51 23	80	4000	2240A	2142A	1113A			
05	22 14 58	00	3000						
06	22 38 33	00	3001						
07	23 02 12	00	3001						
08	23 25 46	00	3001						



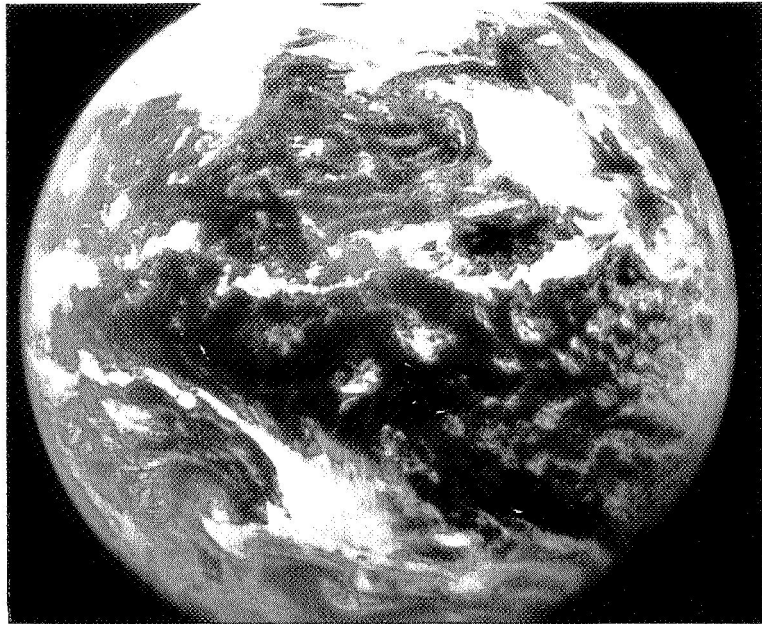
ATS-I 7 JUL 67 21 56 19 Z SEQ 5



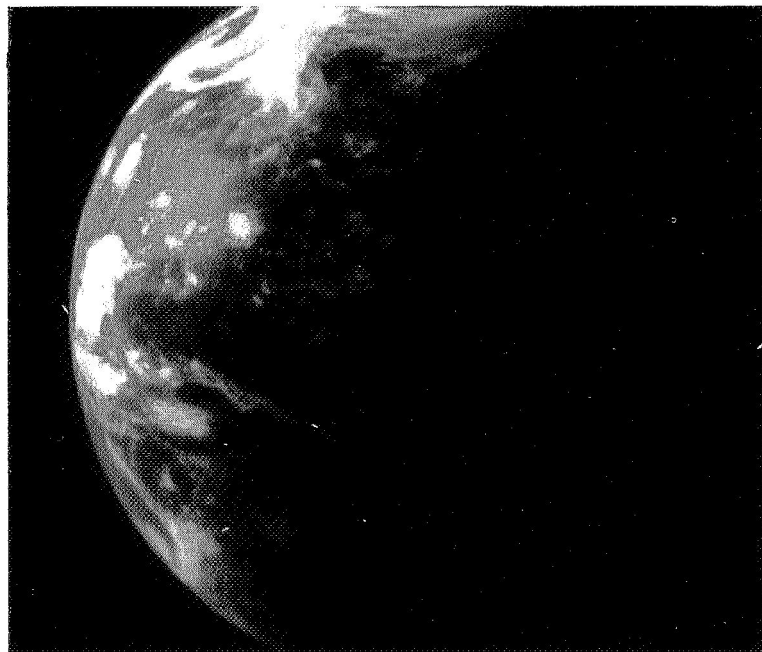
ATS-I 8 JUL 67 21 51 23 Z SEQ 4

9 JUL 67				SUBSATELLITE PT 150.57W 00.05N		TOTAL PICS 8		
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS			REMARKS	
01	03 50 45	00	4001					
02	18 06 00	10	3002	1113B	2141F	2142F	3100H 6043E 1220E	US MEXICO
02	18 06 00	20	4000	2140A	2240A	2230A	4200A	US MEXICO
02	18 06 00	50	1002	2142K	2240F	1113E		
02	18 06 00	60	4000	2240A				
03	20 58 32	00	3002					PR
04	21 22 06	00	3000					
05	21 45 41	00	3000					
06	22 09 16	10	3000	6043E	1220E	2240G	2240G 2143B 2145C	US MEXICO
06	22 09 16	20	4000	2141A	2240A	2230A	4200A	US MEXICO
06	22 09 16	40	4000	2142A	2230A	1100A		
06	22 09 16	50	1000	2143I	1125I	2230C	2142C 2241G	
06	22 09 16	60	4000	2240A	2141A			
06	22 09 16	80	4000	1125A	2142A	2240A		
07	22 32 52	00	3001					
08	22 56 29	00	3001					

10 JUL 67				SUBSATELLITE PT 150.54W 00.05N		TOTAL PICS 4		
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS			REMARKS	
01	03 48 58	10	4001	2145C	2144C	2142F	2141C 2240D 3100A	
01	03 48 58	40	4000	1113A	2230A	2141A	2142A	
01	03 48 58	50	4001	2142C				
01	03 48 58	80	4000	2142A	2230A	1100A	4200A	ASTR
02	18 07 23	00	4002					PE UG
03	20 53 03	00	4000					PE UG
04	22 21 15	00	4000					PE UG



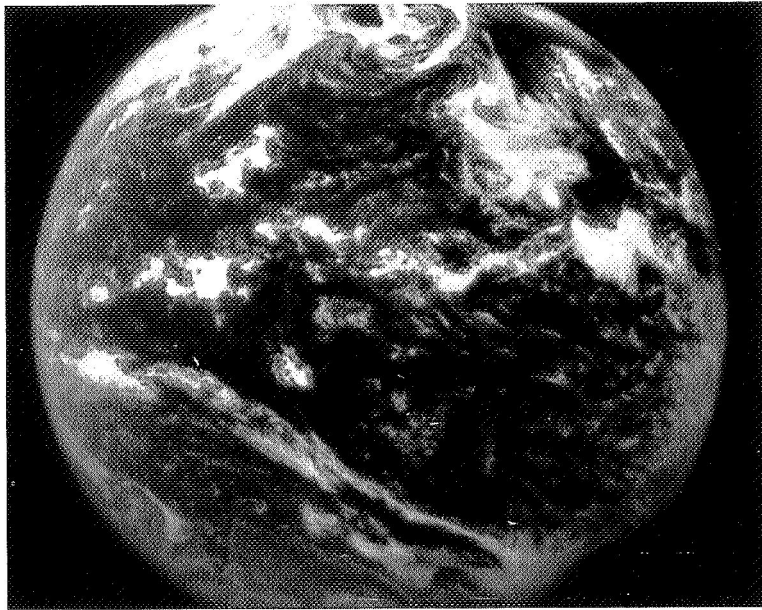
ATS-I 9 JUL 67 22 09 16 Z SEQ 6



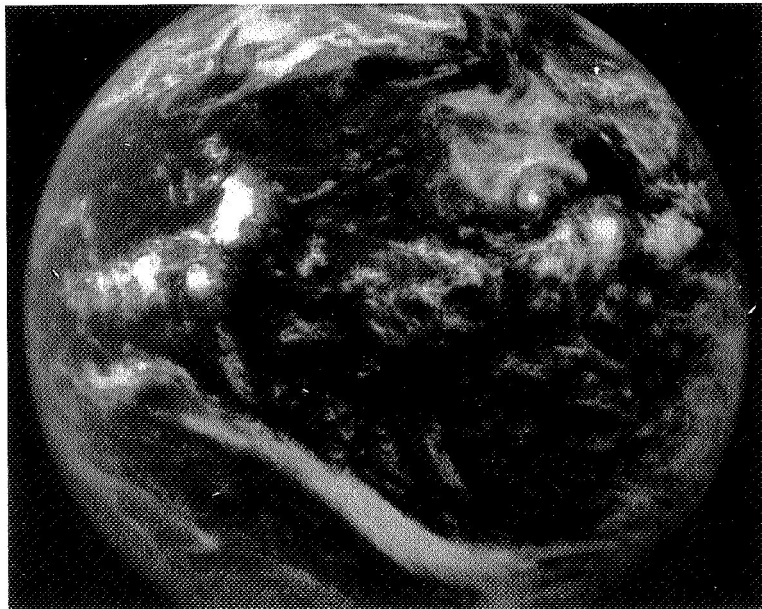
ATS-I 10 JUL 67 03 48 58 Z SEQ 1

11 JUL 67				SUBSATELLITE PT 150.51W 00.04N				TOTAL PICS 6	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	21 01 00	00	3000						
02	21 24 44	00	3000						
03	21 48 20	10	3000	6043E	1220E	2230E	2240G	2142F 2141F	US MEXICO
03	21 48 20	20	4000	2240A	4200A	1100A	2140A		US MEXICO
03	21 48 20	40	4000	2140A	1100A				
03	21 48 20	50	1000	1113E	2142K	2143E	2141E	2240F	
03	21 48 20	60	4000	2141A	2240A				
03	21 48 20	80	4000	2142A	1114A	2240A	4200A		ASTR
04	22 17 16	00	3001						
05	22 40 52	00	3001						
06	23 04 30	00	3001						

12 JUL 67				SUBSATELLITE PT 150.47W 00.04N				TOTAL PICS 8	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 52 25	00	4001						
02	18 26 06	10	3002	6043E	1210E	1230E	2240G	1114B 2142F	US MEXICO EE
02	18 26 06	20	4000	2230A	2240A	4200A			US MEXICO EE
02	18 26 06	40	5002	5000A					
02	18 26 06	50	1002	2143H	2142C	2141H	1114E		
02	18 26 06	60	4000	2141A	2240A				
03	20 54 37	00	3000						
04	21 18 12	00	3000						
05	21 41 46	10	3000	6043E	1210E	1230E	2230G	2240G 1114B	US MEXICO
05	21 41 46	20	4000	2230A	2240A	2140A	4200A		MEXICO
05	21 41 46	40	4000	2140A					
05	21 41 46	50	1000	2143E	2142K	2141E	2240F	1114E	
05	21 41 46	60	4000	2141A	2240A				
05	21 41 46	80	4000	2142A					
06	22 05 26	00	3000						EE
07	22 29 04	00	3000						
08	22 52 37	00	3001						



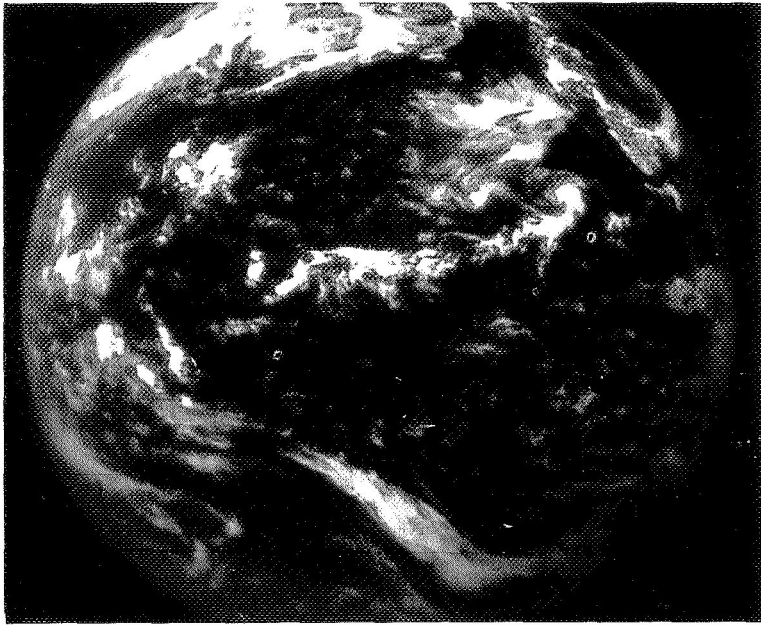
ATS-I 11 JUL 67 21 48 20 Z SEQ 3



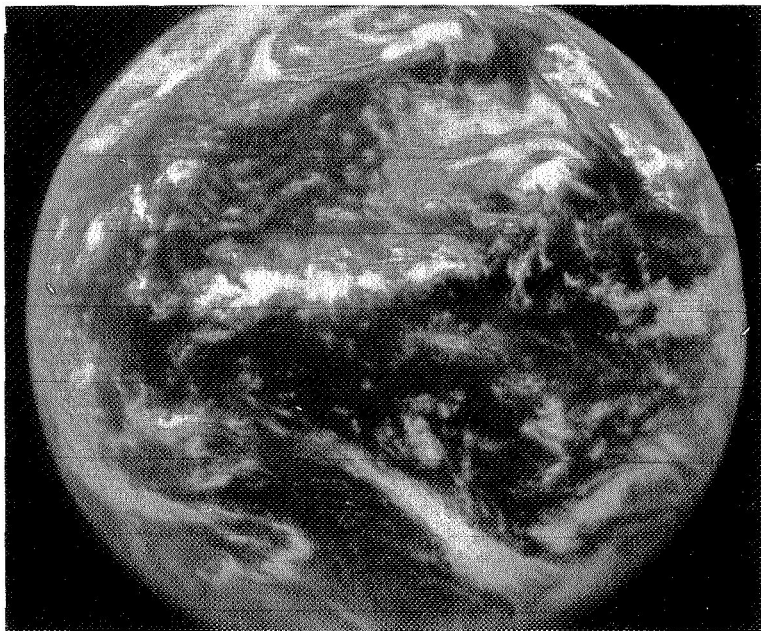
ATS-I 12 JUL 67 21 41 46 Z SEQ 5

13 JUL 67				SUBSATELLITE PT 150.44W 00.04N		TOTAL PICS 11	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	03 29 26	00	4001				
02	07 56 45	00	8000	8000A			
03	08 20 22	00	8000	8000A			
04	08 43 53	00	8000	8000A			
05	18 15 22	10	3002	6043E	1210E 1220E 1114M 2240G 2143F	US MEXICO	
05	18 15 22	20	4000	2140A 2240A 4200A			US MEXICO
05	18 15 22	40	5002	5000A			
05	18 15 22	50	4002	2143G 2142K 2141E 2240F 3100D			
05	18 15 22	60	4000	2240A 2141A			
06	20 50 34	00	3000			EE	
07	21 14 08	00	3000				
08	21 37 49	00	7000				
09	22 01 27	10	3000	6043E 1220E 1210E 2240G 2230D 2143F	US MEXICO		
09	22 01 27	20	4000	2140A 2240A 4200A			US MEXICO
09	22 01 27	40	4000	2240A 2142A			
09	22 01 27	50	1000	2143E 2142A 2141E 3100I 2240F			
09	22 01 27	60	4000	2141A			
09	22 01 27	80	4000	2142A 2230A			
10	22 24 57	00	3001				
11	22 48 32	00	3001				

14 JUL 67				SUBSATELLITE PT 150.41W 00.03N		TOTAL PICS 7	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	03 32 59	00	4501			EE	
02	20 48 40	00	3002				
03	21 12 16	00	3000			PC	
04	21 35 51	00	3000				
05	21 59 26	10	3000	6043E 1211E 6044E 1220E 2240G 2230G	US MEXICO		
05	21 59 26	20	4000	2240A 2140A 4200A			US MEXICO
05	21 59 26	40	4000	2140A 1100A 2230A			
05	21 59 26	50	1000	2143E 2142A 2141E 2240G			
05	21 59 26	60	4000	2140A			
05	21 59 26	80	4000	2140A 2230A 4200A			ASTR
06	22 23 00	00	3000				
07	22 46 36	00	3000			PE	



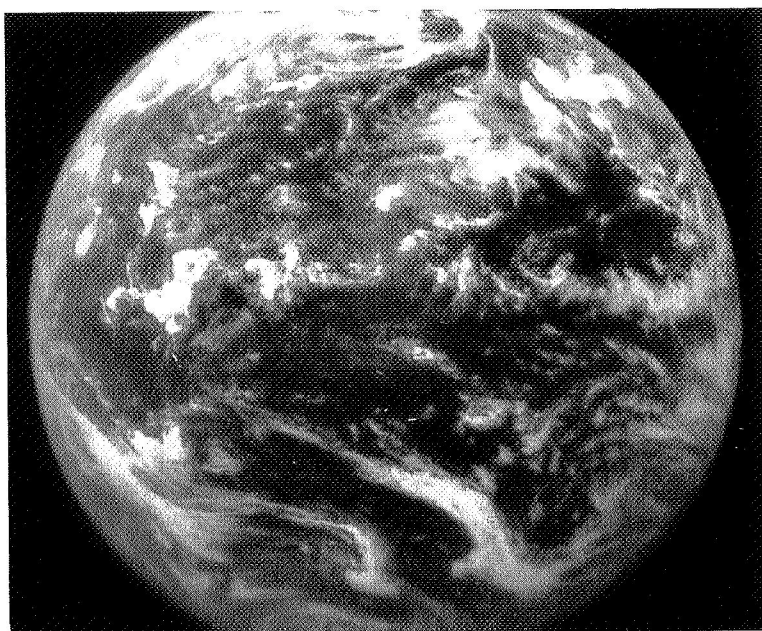
ATS-I 13 JUL 67 22 01 27 Z SEQ 9



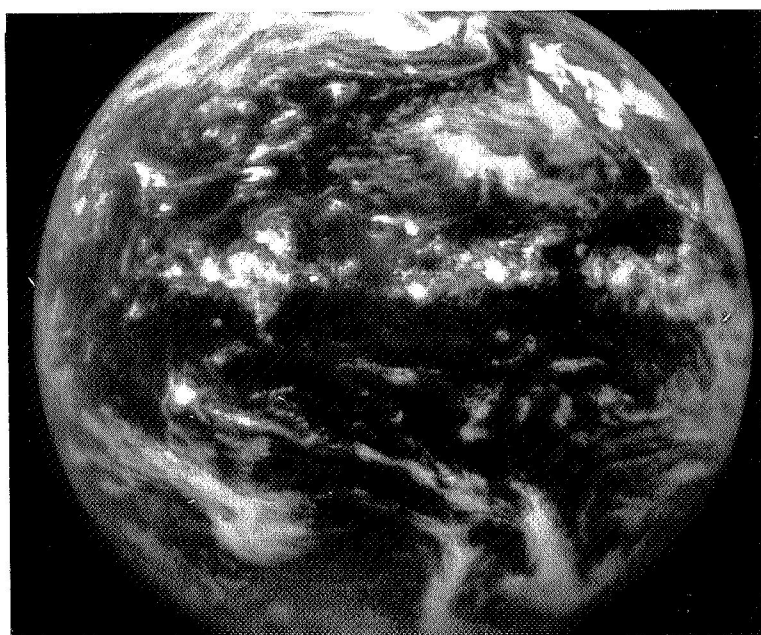
ATS-I 14 JUL 67 21 59 26 Z SEQ 5

15 JUL 67				SUBSATELLITE PT 150.37W 00.03N		TOTAL PICS 28	
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS	REMARKS		
01	03 41 38	00	4001				
02	13 23 12	00	4002			PE	
03	13 46 47	00	4002				
04	14 10 20	00	4002				
05	14 34 33	00	4002			EE	
06	14 57 27	00	4002			EE	
07	15 21 10	00	4002			EE DISTORTED	
08	15 44 44	00	4002				
09	16 08 21	10	4002	6044E 1220E 2240E 2230E 1113B 2142B	US MEXICO		
09	16 08 21	20	4000	1100A 2140A	US MEXICO		
09	16 08 21	50	4002	2142H 2240B			
09	16 08 21	60	4000	2240A 3100A			
10	16 31 52	00	4002				
11	16 55 43	00	4002				
12	17 19 07	00	4002				
13	17 42 40	00	4002				
14	18 06 18	00	4002				
15	18 32 20	00	1002				
16	18 53 30	00	1002				
17	19 17 03	10	1002	6043G 1210G 6044E 1220E 2240G 1113F	US MEXICO		
17	19 17 03	20	4000	2240A 1100A 2140A 4200A	US MEXICO		
17	19 17 03	40	5002	5000A			
17	19 17 03	50	1002	2143G 2142A 2141G 2240F 1113D			
17	19 17 03	60	4000	2141A 2240A			
17	19 17 03	80	4002	3100A			
18	19 40 40	00	1002				
19	20 04 15	00	1002				
20	20 27 49	00	1002				
21	20 51 30	00	7000				
22	21 15 04	00	1000				
23	21 38 30	00	1000				
24	22 02 12	10	1000	6043G 1210G 6044E 1231E 2240G 2230D	US MEXICO		
24	22 02 12	20	4000	2240A 1100A 2140A 4200A	US MEXICO		
24	22 02 12	40	4000	1100A 2140A			
24	22 02 12	50	1000	2145F 2142A 2141G 2240C			
24	22 02 12	60	4000	2141A 2240A			
24	22 02 12	80	4000	2142A 2240A 4200A	ASTR		
25	22 25 46	00	1000				
26	22 49 23	00	1000		EE		
27	23 12 59	00	1001		EE		
28	23 36 33	00	1001				

16 JUL 67				SUBSATELLITE PT 150.33W 00.03N		TOTAL PICS 23	
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS	REMARKS		
01	00 00 09	00	1001		EE		
02	00 23 43	10	1000	6043G 1221G 6044E 1230E 2230G 2240G	US MEXICO		
02	00 23 43	20	5001	2140A			
02	00 23 43	40	4000	1100A 2142A 2230A			
02	00 23 43	50	1001	2145G 2142A 2141D 2240C 3100A 1114D			
02	00 23 43	80	4000	2142A 2240A			
03	00 47 18	00	4001				
04	01 10 54	00	4001				
05	01 34 31	00	4001				
06	01 58 06	00	4001				
07	02 21 41	00	4001				
08	02 45 34	00	4001				
09	03 08 51	00	4001				
10	03 32 29	00	4001				
11	03 56 02	00	4001				
12	04 19 39	00	4001				
13	04 43 15	00	4001				
14	05 45 17	00	7000				
15	06 08 52	00	5001				
16	06 40 39	00	5001				
17	18 37 28	10	3002	6044E 1220E 2230G 2240G 2142F 2143F	US MEXICO		
17	18 37 28	20	4000	2230A 2140A 4200A	US MEXICO		
17	18 37 28	40	5000	5000A			
17	18 37 28	50	1002	2145E 2142A 2141G 2240F			
17	18 37 28	60	4000	2141A 2240A			
17	18 37 28	80	5002	5000A			
18	20 53 34	00	1002				
19	21 17 08	00	1000				
20	21 40 45	00	1000				
21	22 04 23	10	3000	6044E 1230E 2230G 2240G 1113F 2143F	US MEXICO		
21	22 04 23	20	4000	1113A 2140A 4200A	US MEXICO		
21	22 04 23	40	4000	2140A			
21	22 04 23	50	1000	2145E 2143G 2142A 2141E 3100A			
21	22 04 23	60	4000	2141A 2240A			
21	22 04 23	80	4000	2142A 4200A	ASTR		
22	22 27 57	00	3000				
23	22 51 20	00	3000				



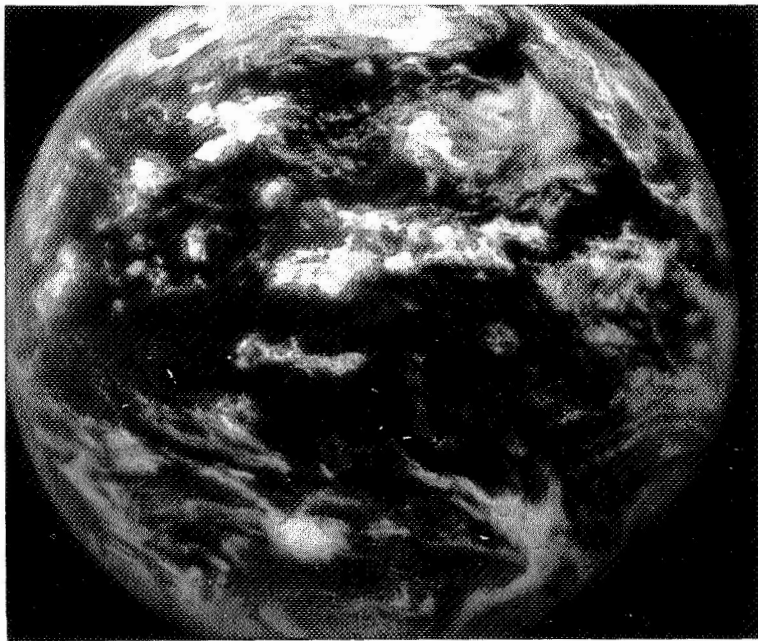
ATS-I 15 JUL 67 22 02 12 Z SEQ 24



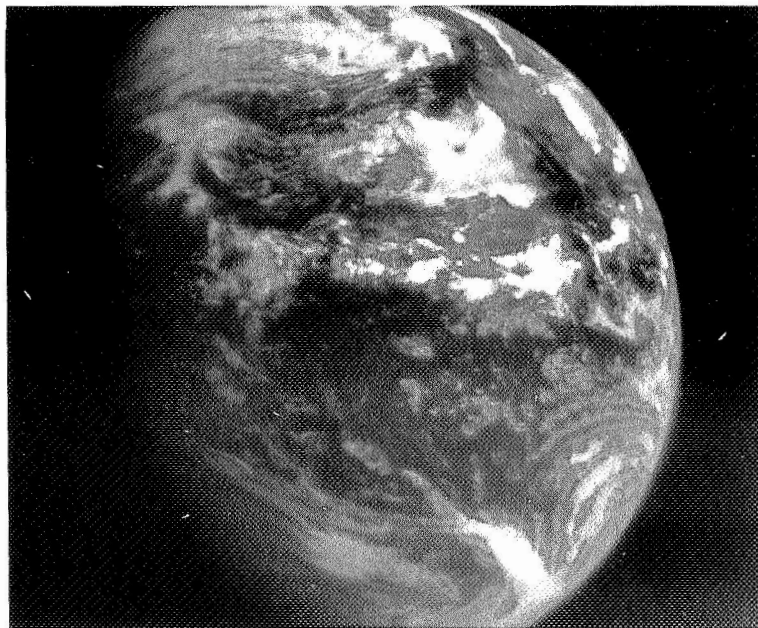
ATS-I 16 JUL 67 22 04 23 Z SEQ 21

17 JUL 67				SUBSATELLITE PT 150.29W 00.03N		TOTAL PICS 9	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	05 05 31	00	4001				
02	18 05 25	10	3002	2240G	2230E 1114B 2142F 2143B 2141B	US MEXICO	
02	18 05 25	20	4000	2140A	4200A	US MEXICO	
02	18 05 25	40	5002	5000A			
02	18 05 25	50	4002	2143E	2142J 2141E 2240F 3100D		
02	18 05 25	60	4000	2141A	2240A		
03	20 45 07	00	3002			EE	
04	21 08 41	00	3000			EE PE	
05	21 32 18	00	3000			PE	
06	21 55 54	00	4000			EE PE PC	
07	22 22 42	10	3000	2240G	2230G 1114F 2143F 2142F 2141F	US MEXICO	
07	22 22 42	20	4000	2240A	2140A 4200A	MEXICO	
07	22 22 42	40	4000	2230A	2140A	PE	
07	22 22 42	50	1000	1114E	2143E 2142J 2141E 3100A 2240F		
07	22 22 42	60	4000	2141A	2240A		
07	22 22 42	80	4000	1114A	2140A 2240A		
08	22 46 20	00	3001			PE	
09	23 09 54	00	3001			PE	

18 JUL 67				SUBSATELLITE PT 150.24W 00.03N		TOTAL PICS 2	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	03 47 13	00	4001				
02	18 07 48	10	3002	2240G	2230G 3100I 1114B 2142E 4200H	US MEXICO	
02	18 07 48	20	4000	2240A	2140A 1113A 4200A	MEXICO	
02	18 07 48	40	5002	5000A			
02	18 07 48	50	1002	2143D	2142A 2141G 2240A 1114E		
02	18 07 48	60	4000	2140A	2240A		



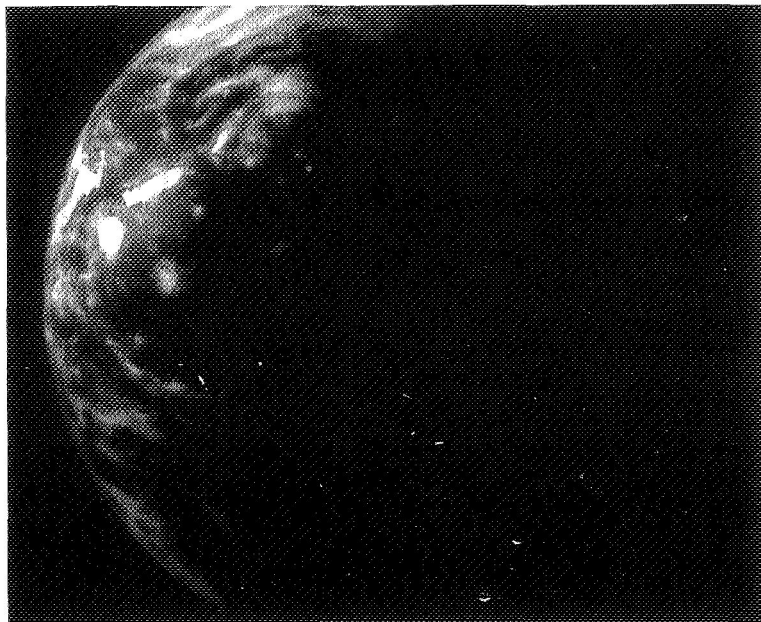
ATS-1 17 JUL 67 22 22 42 Z SEQ 7



ATS-1 18 JUL 67 18 07 48 Z SEQ 2D

			19 JUL 67	SUBSATELLITE PT 150.20W 00.03N	TOTAL PICS 1
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
01	03 55 40	00	4001		

			20 JUL 67	SUBSATELLITE PT 150.20W 00.03N	TOTAL PICS 1
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
01	04 08 05	00	4001		PE



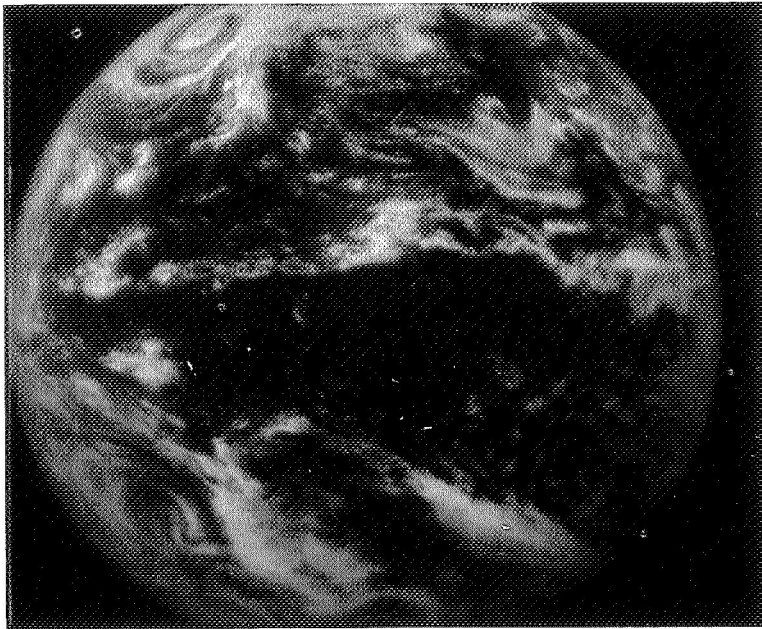
ATS-I 19 JUL 67 03 55 40 Z SEQ 1



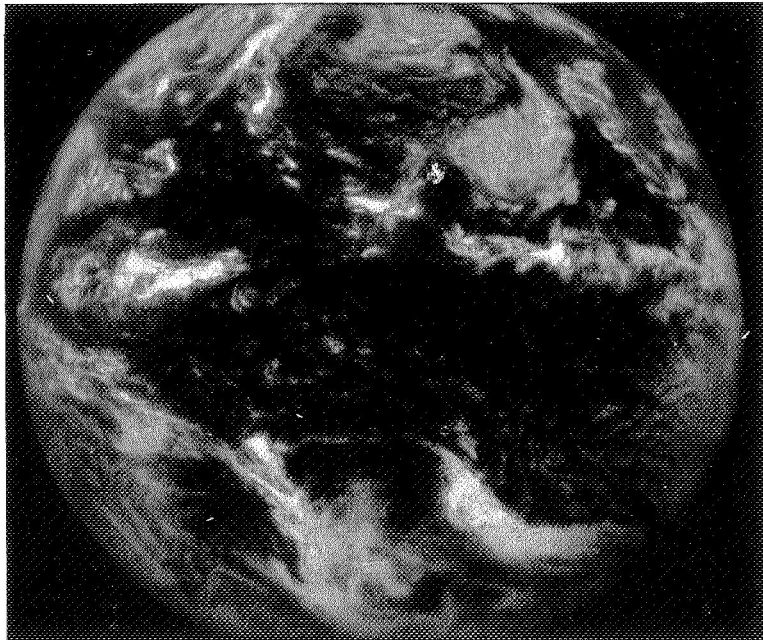
ATS-I 20 JUL 67 04 08 05 Z SEQ 1

21 JUL 67				SUBSATELLITE PT 150.19W 00.03N		TOTAL PICS 6	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	03 28 15	00	4001				
02	21 05 50	00	3000			PE	
03	21 29 29	00	3000			PE	
04	21 52 30	10	3000	1113C 2142F 2141C 2240G 2230E 4200H	US MEXICO		
04	21 52 30	20	4000	2230A 2240A 2140A	MEXICO		
04	21 52 30	40	4000	2142A 2240A	PE		
04	21 52 30	50	1000	2142A 2141G			
04	21 52 30	60	4000	2142A			
04	21 52 30	80	4000	2142A 2230A 1114A	PE		
05	22 16 41	00	3001			PE	
06	22 40 21	00	3001			PE	

22 JUL 67				SUBSATELLITE PT 150.19W 00.02N		TOTAL PICS 8	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	03 57 11	00	4001				
02	18 05 11	10	3002	1113C 2142C 2141C 1114B 2240G 2230E	MEXICO US		
02	18 05 11	20	4000	2230A 2140A 1114G			
02	18 05 11	50	4002	2143H			
02	18 05 11	60	4000	1114A 2142A			
03	20 51 03	00	3002				
04	21 14 35	00	3002				
05	21 38 13	00	3000				
06	22 01 48	10	3000	1114F 2142C 2240G 3100F 4200H	US MEXICO		
06	22 01 48	20	4000	2240A 2140A 4200A	MEXICO		
06	22 01 48	40	4000	6643A 1220A 2240A 2140A			
06	22 01 48	50	1000	2143H 2142A 2141H 1125E			
06	22 01 48	60	4000	2141A 2240A			
06	22 01 48	80	4000	2142A 4200A	ASTR		
07	22 25 23	00	3001				
08	22 48 58	00	7000				



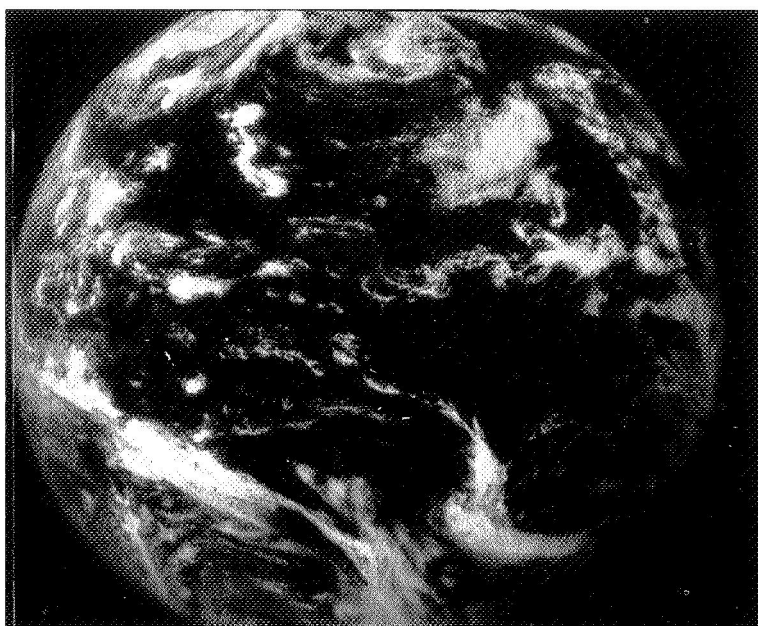
ATS-I 21 JUL 67 21 52 30 Z SEQ 4



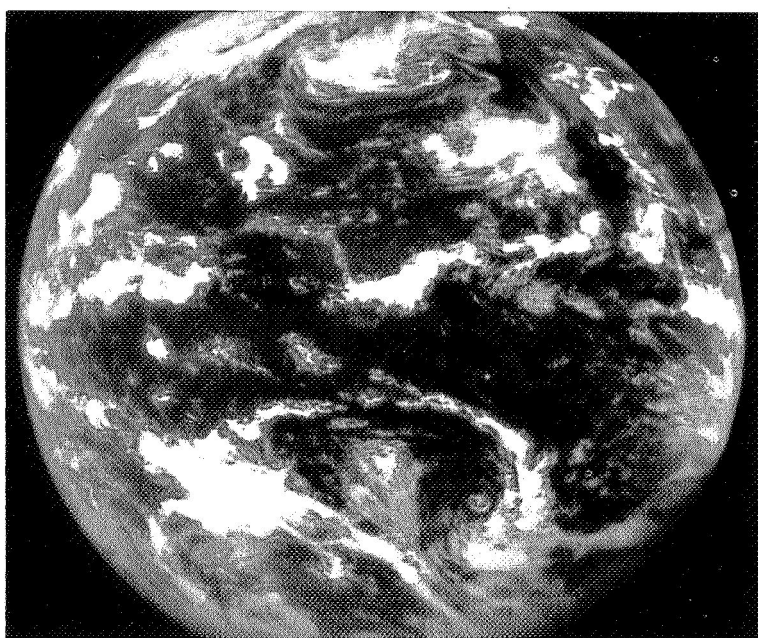
ATS-I 22 JUL 67 22 01 48 Z SEQ 6

23 JUL 67				SUBSATELLITE PT 150.18W 00.02N		TOTAL PICS 9	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	03 46 27	00	4001				
02	18 06 27	10	3002	1113B	1114C 2142I 2240G 2230E 4200H	US MEXICO	
02	18 06 27	20	4000	2230A 2240A 2140A 4200A			MEXICO
02	18 06 27	50	4002	2145B 2142B 2141E 2144B 1113B			
02	18 06 27	60	4000	2141A			
03	20 51 34	00	3002				
04	21 15 06	00	3000			PE	
05	21 38 43	00	3000			PE	
06	22 02 24	10	3000	1114F 2142C 2241B 3100F 2240G 2230E	US MEXICO		
06	22 02 24	20	4000	2230A 2240A 1100A			
06	22 02 24	40	4000	6643A 2140A			
06	22 02 24	50	1000	2145B 2144B 2142K 2141H 1114D			
06	22 02 24	60	4000	2141A 2240A			
06	22 02 24	80	4000	2142A 2240A 4550A 4200A	NZ ASTR		
07	22 25 56	00	3000				
08	22 49 32	00	3001				
09	23 13 05	00	3001				

24 JUL 67				SUBSATELLITE PT 150.18W 00.01N		TOTAL PICS 8	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	03 30 26	00	4001				
02	18 15 11	10	1002	1100F 3100B 2142F 6045E 1220E 2240G	US MEXICO PE		
02	18 15 11	20	4000	2240A 4200A	US MEXICO		
02	18 15 11	50	1002	1113F 2145B 2144F 2142F 2141B			
02	18 15 11	60	4000	2141A			
03	20 58 28	00	3002				
04	21 22 03	00	3000				
05	21 45 39	00	3000			PR	
06	22 09 16	10	3000	1114F 2142F 2240G 6045E 1220E 2240G	US MEXICO HAW		
06	22 09 16	20	4000	2240A			
06	22 09 16	40	4000	2142A 2240A 2230A			
06	22 09 16	50	1000	1114A 2143H 2142K 2141H			
06	22 09 16	60	4000	2141A			
06	22 09 16	80	4000	2142A 2240A 4200A	ASTR		
07	22 32 52	00	3001				
08	22 56 25	00	3001			PR	



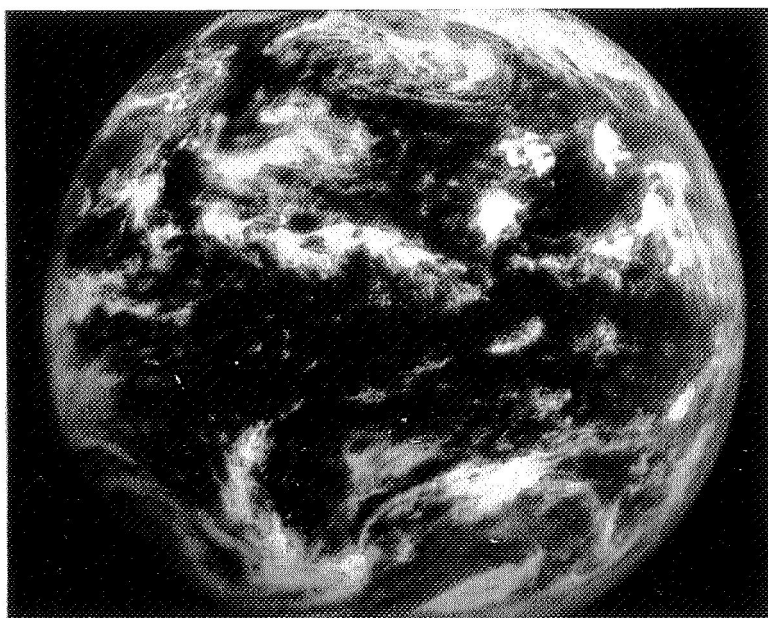
ATS-I 23 JUL 67 22 02 24 Z SEQ 6



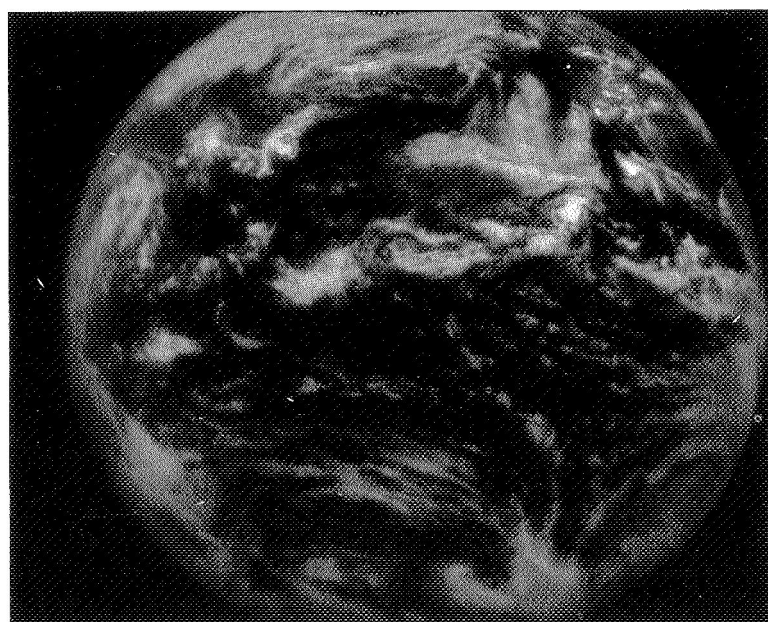
ATS-I 24 JUL 67 22 09 16 Z SEQ 6

25 JUL 67				SUBSATELLITE PT 150.17W 00.01N				TOTAL PICS	7
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 10 52	10	4002	6045E	1230E	2240G	2230G 1114B 2142C	US MEXICO PC	
01	18 10 52	20	4000	2240A	2142A	4200A		US MEXICO PC	
01	18 10 52	50	4002	1114B	2142A	2141E		PC	
01	18 10 52	60	4000	2141A				PC	
02	20 51 14	00	4002						
03	21 14 48	00	3000					SCRATCHED	
04	21 38 28	00	3000						
05	22 02 03	10	3000	6045E	1230E	2240G	2230G 1114F 2142C	US MEXICO HAW	
05	22 02 03	20	4000	2142A	2240A	4200A		US MEXICO	
05	22 02 03	40	4000	2230A	2240A	1113A 2142A			
05	22 02 03	50	1000	2142A	2141H	1114B			
05	22 02 03	60	4000	2141A					
05	22 02 03	80	4000	2142A	2230A	4200A		ASTR	
06	22 25 36	00	3000						
07	22 49 16	00	3001						

26 JUL 67				SUBSATELLITE PT 150.16W 00.00N				TOTAL PICS	5
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 06 37	00	4001						
02	03 53 33	00	8000	8000A					
03	04 17 08	00	8000	8000A					
04	21 05 12	00	3002						
05	21 28 48	10	3000	6045E	1220E	2240G	2230G 1114B 2142F	US MEXICO HAW	
05	21 28 48	20	4000	2240A	2142A				
05	21 28 48	40	4000	1113A	2142A	2240A			
05	21 28 48	50	1000	1113G	2142L	2141E			
05	21 28 48	60	4000	2141A					
05	21 28 48	80	4000	2142A	2230A				



ATS-I 25 JUL 67 22 02 03 Z SEQ 5

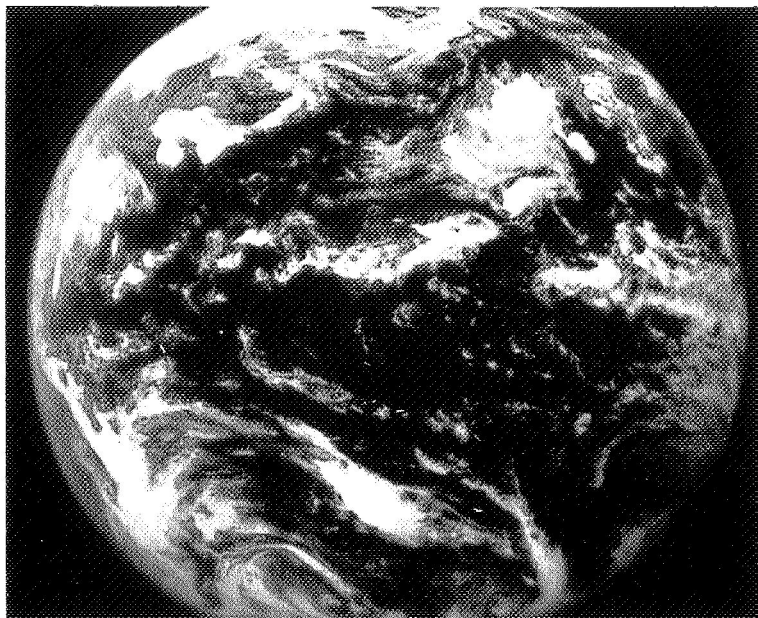


ATS-1 26 JUL 67 21 28 48 Z SEQ 5

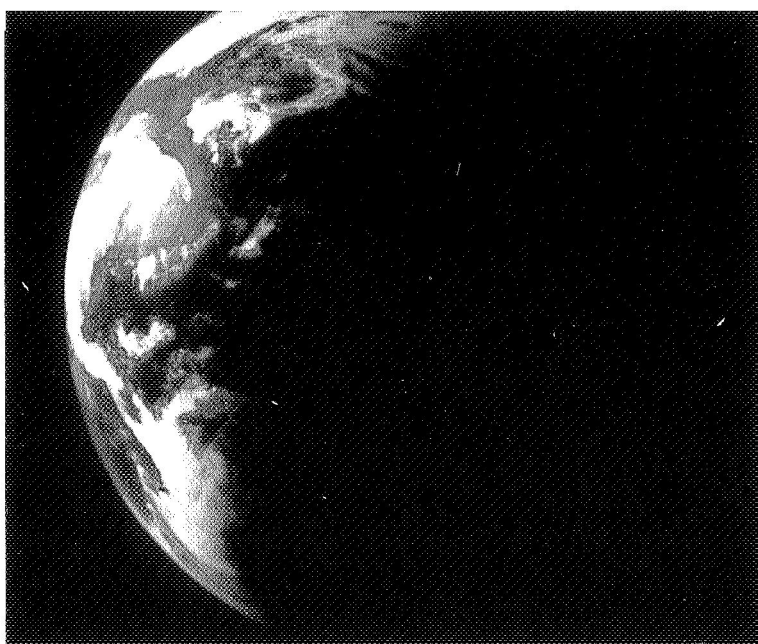
		27 JUL 67	SUBSATELLITE PT 150.14W 00.00S				TOTAL PICS 7	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS
01	18 14 30	10	3002	6045E	1220E	6046E	1210E 2240G 1113F	US MEX HAW
01	18 14 30	20	4000	2240A	2230A	2142A		
01	18 14 30	40	5002	5000A				
01	18 14 30	50	4002	1113E	2142A	2141E		
01	18 14 30	60	4000	2141A	2240A			
02	21 04 44	00	3000					
03	21 28 28	00	3000					
04	21 51 56	10	3000	6045E	1220E	6046E	1220E 2240G 2142F	US MEX HAW
04	21 51 56	20	4000	2240A	4200A			US MEX CUBA
04	21 51 56	40	4000	2230A	2142A			
04	21 51 56	50	1000	1113G	2142A	2141E		
04	21 51 56	60	4000	2141A				
04	21 51 56	80	4000	2142A	1113A			
05	22 15 30	00	3000					
06	22 39 10	00	3001					
07	23 02 43	00	3001					

		28 JUL 67	SUBSATELLITE PT 150.13W 00.00S				TOTAL PICS 1	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS
01	04 04 42	00	4001					

29 JULY 1967 NO DATA AVAILABLE



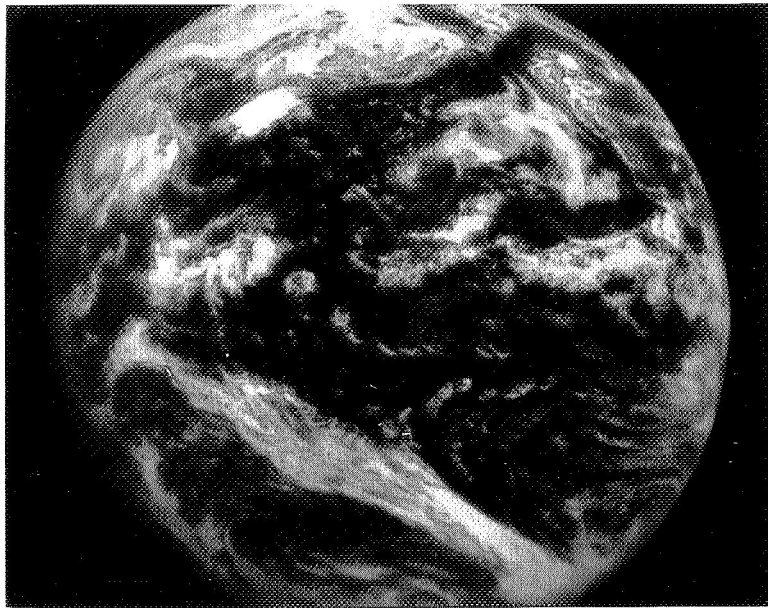
ATS-I 27 JUL 67 21 51 56 Z SEQ 4



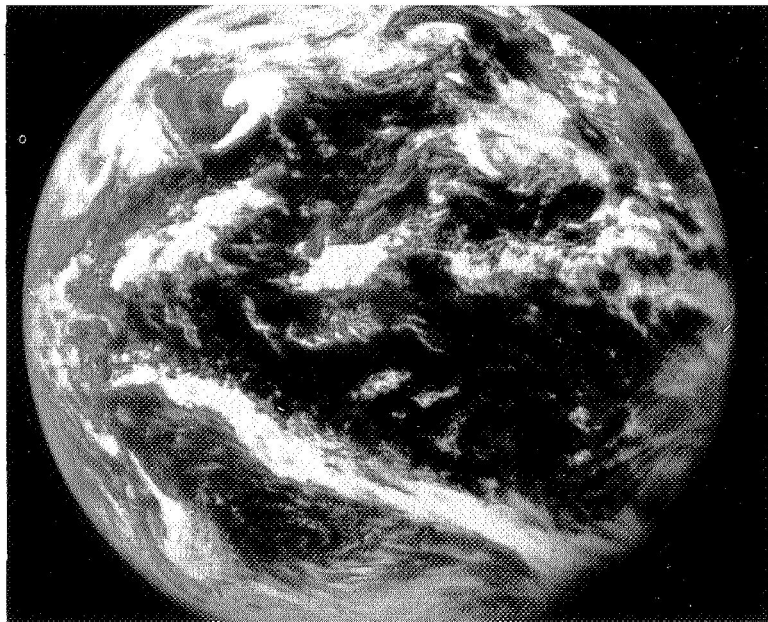
ATS-I 28 JUL 67 04 04 42 Z SEQ 1

30 JUL 67				SUBSATELLITE PT 150.11W 00.00S				TOTAL PICS 3	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 08 02	00	3002						
02	20 16 09	00	3002						
03	20 39 42	10	3000	6045E	1220E	6046E	1210E	2240G 1114B	US MEX
03	20 39 42	20	4000	2230A	2240A	2142A	4200A		US MEX
03	20 39 42	40	4000	6644A	1231A				
03	20 39 42	50	1000	1114G	2142A	2240F	3100F	2142E	
03	20 39 42	60	4000	2142A					
03	20 39 42	80	4002	2142A	2230A				

31 JUL 67				SUBSATELLITE PT 150.09W 00.00S				TOTAL PICS 9	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 55 44	00	4001					EE	
02	18 07 25	10	3002	2240G	2230G	1113F	2142K	US MEX	
02	18 07 25	20	4000	2240A	4200A			US MEX CUBA	
02	18 07 25	50	4002	2142A	1114G	2240A			
02	18 07 25	60	4000	2140A					
03	20 55 31	00	3000						
04	21 19 07	00	3000						
05	21 42 41	00	3000						
06	22 06 17	10	3000	2240G	2230G	1113F	2142K	2141B 4200A	US MEX
06	22 06 17	20	4000	2240A	4200A				US MEX CUBA
06	22 06 17	40	4000	6644A	1230A	2240A	2140A		
06	22 06 17	50	1000	2142A	1114E	2240F			
06	22 06 17	60	4000	3100A	2240A				
06	22 06 17	80	4000	2142A	2240A				
07	22 29 54	00	3001						
08	22 52 28	00	3001						
09	23 17 05	00	3001					PE	



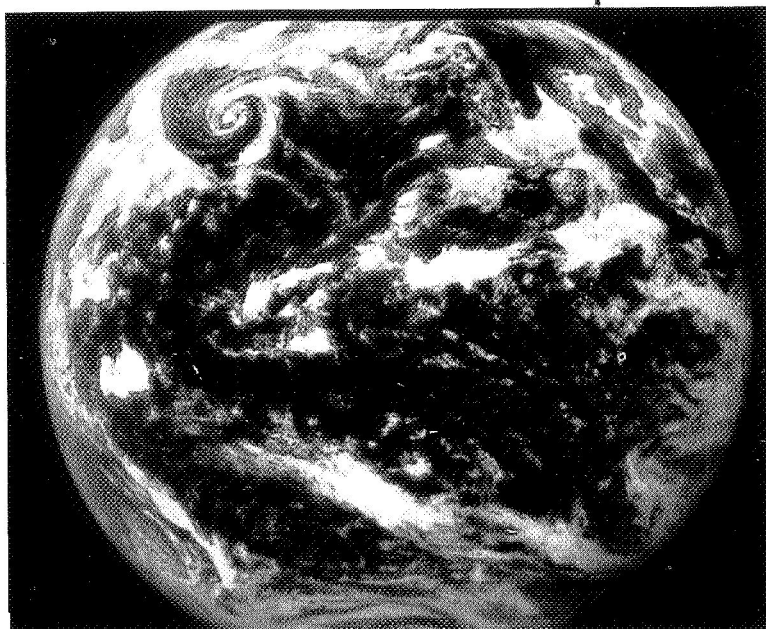
ATS-I 30 JUL 67 20 39 42 Z SEQ 3



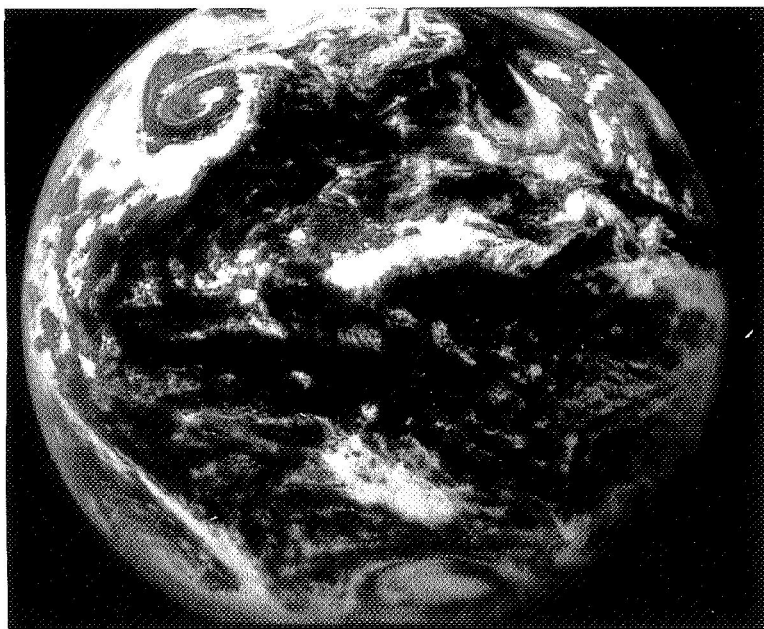
ATS-I 31 JUL 67 22 06 17 Z SEQ 6

1 AUG 67				SUBSATELLITE PT 150.07W 00.00S				TOTAL PICS 6	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	21 21 46	00	3000						
02	21 45 21	00	3000						
03	22 08 59	10	3000	2240G	2230G	1114K	2142K	2141C 2145C	US MEX
03	22 08 59	20	4000	2145A	2142A				US MEX CUBA
03	22 08 59	40	4000	6644A	1230A	6646A	1220A	2240A	
03	22 08 59	50	1000	2142A	2240A				
03	22 08 59	60	4000	2240A					
03	22 08 59	80	4000	1113A	2142A	2230A			
04	22 32 33	00	3001						
05	22 56 07	00	3001						
06	23 19 46	00	3001						

2 AUG 67				SUBSATELLITE PT 150.05W 00.00S				TOTAL PICS 3	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 09 06	10	4002	2240G	2230E	1114I	2145C	4200H	PC US MEX
01	18 09 06	20	4000	1114A					PC
01	18 09 06	50	4002	2140G	3100A				PC
01	18 09 06	60	4000	2140A					PC
02	22 17 50	10	4000	2240G	2230G	1114F	2142J	2141C 2144C	US MEX
02	22 17 50	20	4000	2240A	1100A				US MEX CUBA
02	22 17 50	40	4000	6646A	2240A				
02	22 17 50	50	1000	2142D	2141D	3100E			
02	22 17 50	60	4000	3100A					
02	22 17 50	80	4000	1113A	2142A	2240A			
03	22 41 27	00	3001						



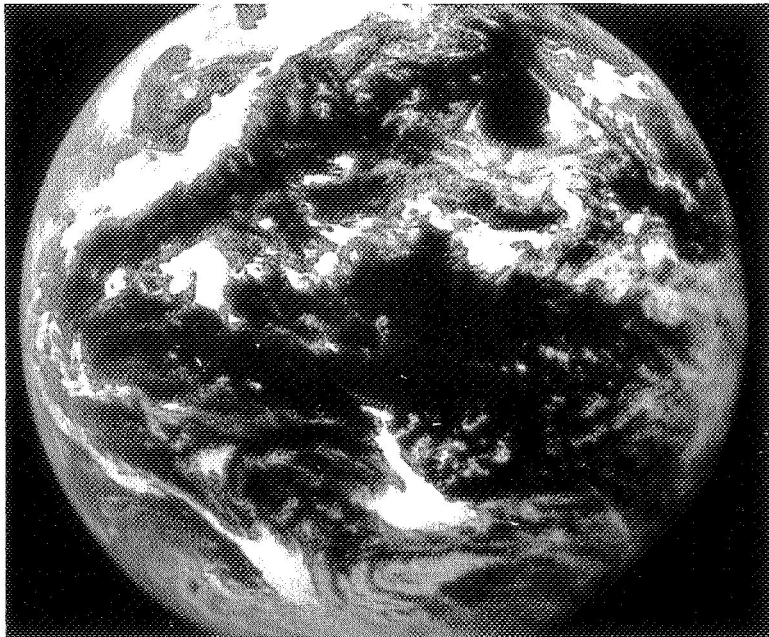
ATS-I 1 AUG 67 22 08 59 Z SEQ 3



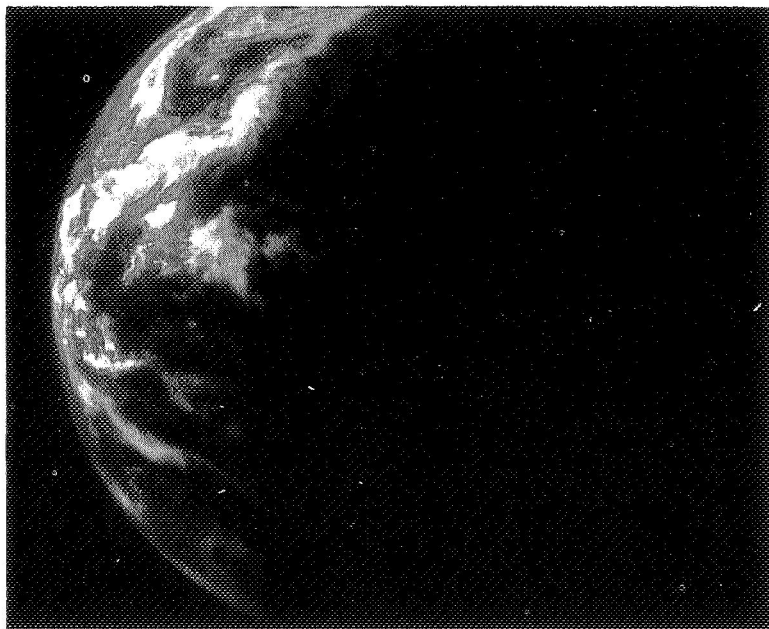
ATS-I 2 AUG 67 22 17 50 Z SEQ 2

3 AUG 67				SUBSATELLITE PT 150.03W 00.01S		TOTAL PICS 8	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	03 48 32	00	4001				
02	21 03 39	00	3000				
03	21 27 10	00	3000				
04	21 50 56	00	3000				
05	22 14 27	10	3000	2240G	2230G 2142B 2143I 1114C	US MEX	
05	22 14 27	20	4000	2240A	2142A	US MEX CUBA	
05	22 14 27	40	4000	6646A	2240A		
05	22 14 27	50	1000	2142I	2143I		
05	22 14 27	60	4000	2240A			
05	22 14 27	80	4000	2142A	2240A 4200A	ASTR	
06	22 39 25	00	3001				
07	23 06 58	00	3001				
08	23 31 13	00	3001				

4 AUG 67				SUBSATELLITE PT 150.01W 00.01S		TOTAL PICS 1	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	03 43 48	00	4001				



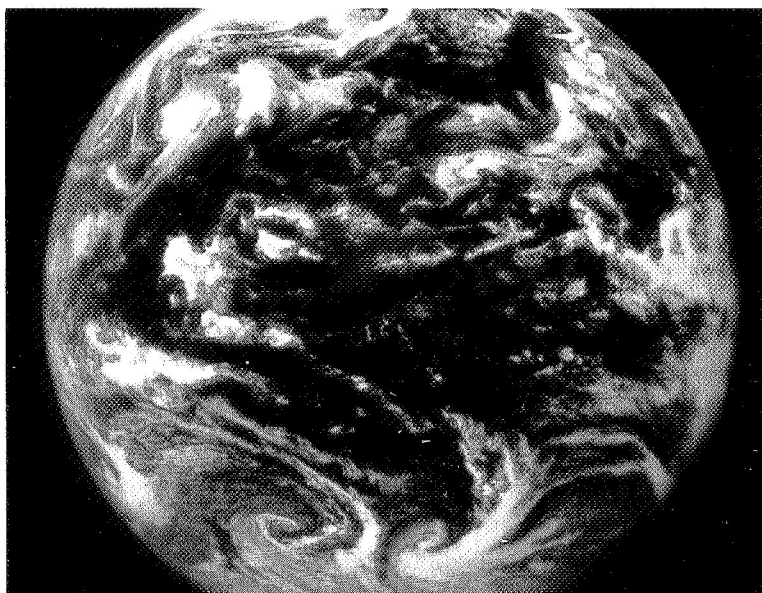
ATS-I 3 AUG 67 22 14 27 Z SEQ 5



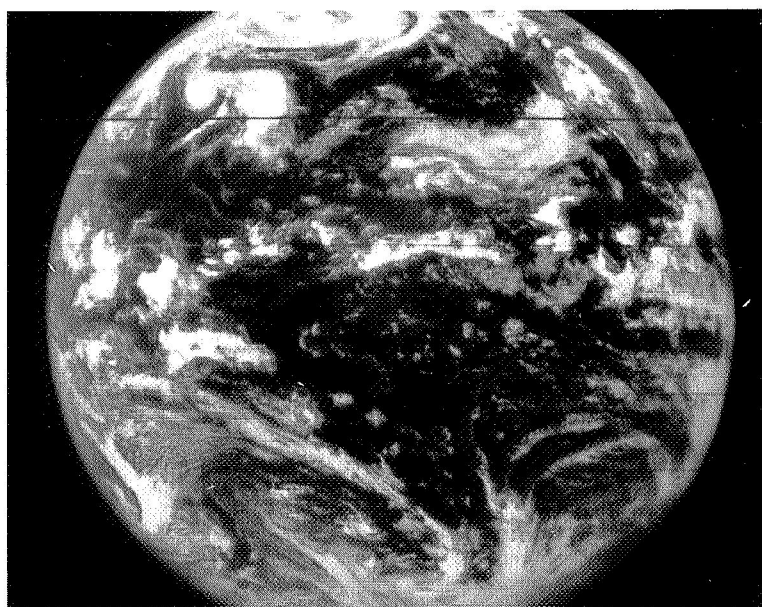
ATS-I 4 AUG 67 03 43 48 Z SEQ 1

5 AUG 67				SUBSATELLITE PT 150.00W 00.01S				TOTAL PICS 6	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	21 21 54	00	3000						
02	21 45 28	00	7000						
03	22 09 02	10	3000	2142F	2141C	2230G	2240G	1120D 4200H	
03	22 09 02	20	4000	2240A	2230A	4200A	4550A	US MEX	
03	22 09 02	40	4000	1113A	2142A	2230A		US MEX CUBA	
03	22 09 02	50	1000	1113G	2145G	2144G	2142A	2141L 2240F	
03	22 09 02	60	4000	2141A	2240A				
03	22 09 02	80	4000	1113A	2142A	2240A	4200A	ASTR	
04	22 32 38	00	7000						
05	22 56 13	00	3001						
06	23 19 51	00	7000						

6 AUG 67				SUBSATELLITE PT 149.98W 00.01S				TOTAL PICS 5	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 56 12	00	4001						
02	18 29 40	10	3002	1113C	2142F	6647C	1220C	2240G 3100G	
02	18 29 40	20	4000	2230A	2240A	2140A	4550A	4200A	
02	18 29 40	40	5002	5000A					
02	18 29 40	50	1002	1125D	2142A	2141E	2240F		
02	18 29 40	60	4000	2240A	2141A				
03	21 04 53	00	7000						
04	21 28 28	00	7000						
05	21 52 01	10	3000	6647C	1220C	2142F	2141C	2240G 2230G	
05	21 52 01	20	4000	2240A	2230A	2140A	4200A	4550A	
05	21 52 01	40	4000	1113A	2142A	2230A			
05	21 52 01	50	1000	1125D	1113G	2143E	2142A	2141E 2240F	
05	21 52 01	60	4000	2141A	2240A				
05	21 52 01	80	4000	1113A	2142A	4200A	2240A	ASTR	



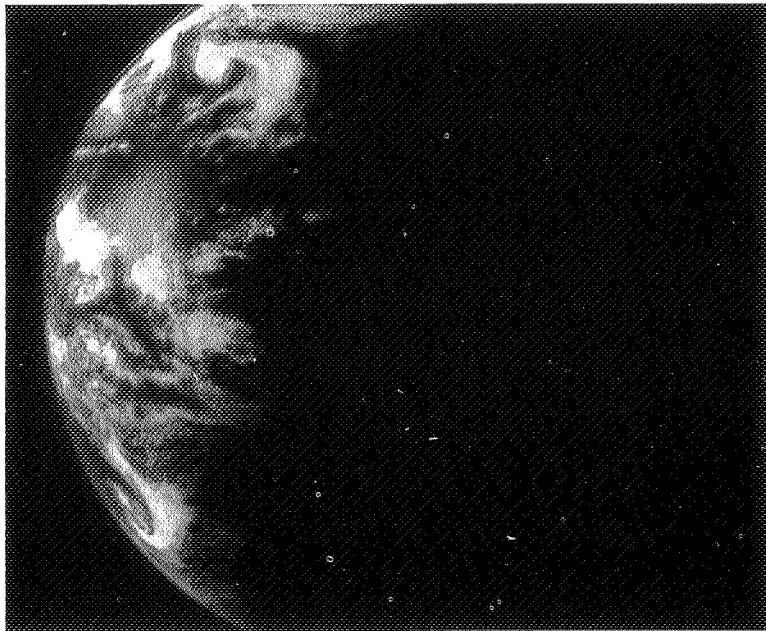
ATS-I 5 AUG 67 22 09 02 Z SEQ 3D



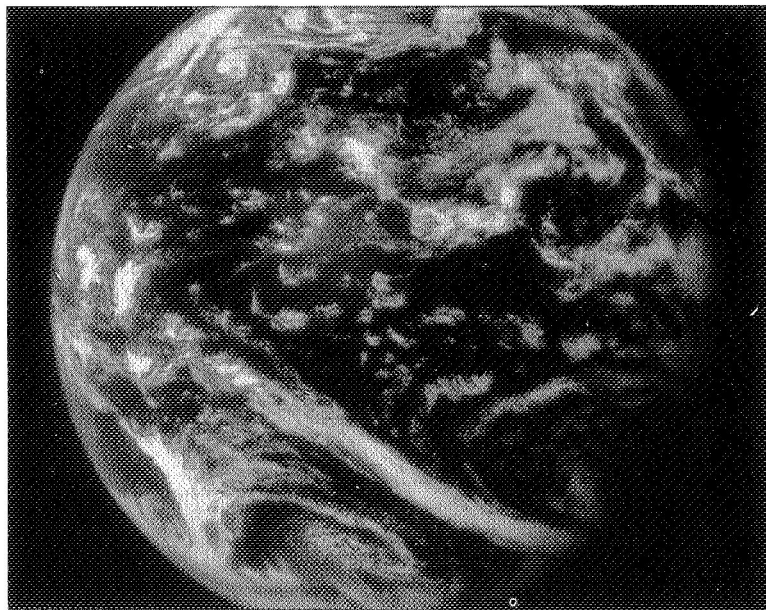
ATS-I 6 AUG 67 21 52 01 Z SEQ 5D

7 AUG 67				SUBSATELLITE PT 149.96W 00.01S		TOTAL PICS 1	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	03 57 06	00	4001				

8 AUG 67				SUBSATELLITE PT 149.95W 00.02S		TOTAL PICS 8	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	03 45 34	00	1001				
02	18 16 28	00	7000				
03	21 18 01	00	7000				
04	21 41 39	00	7000				
05	22 05 14	00	7000				
06	22 28 50	00	7000				
07	22 55 23	00	7000				
08	23 19 12	10	3001	6647C 1220C 2142F 2141C 2230G 2240G	US MEX		
08	23 19 12	20	4001	2240A 2140A 4200A	US MEX		
08	23 19 12	40	4000	1113A 2142A 2230A			
08	23 19 12	50	1001	2142A 1114D 2240F			
08	23 19 12	60	4001	2240A			
08	23 19 12	80	4000	1113A 2145A 2144A 2142A 2141A 2240A	ASTR		



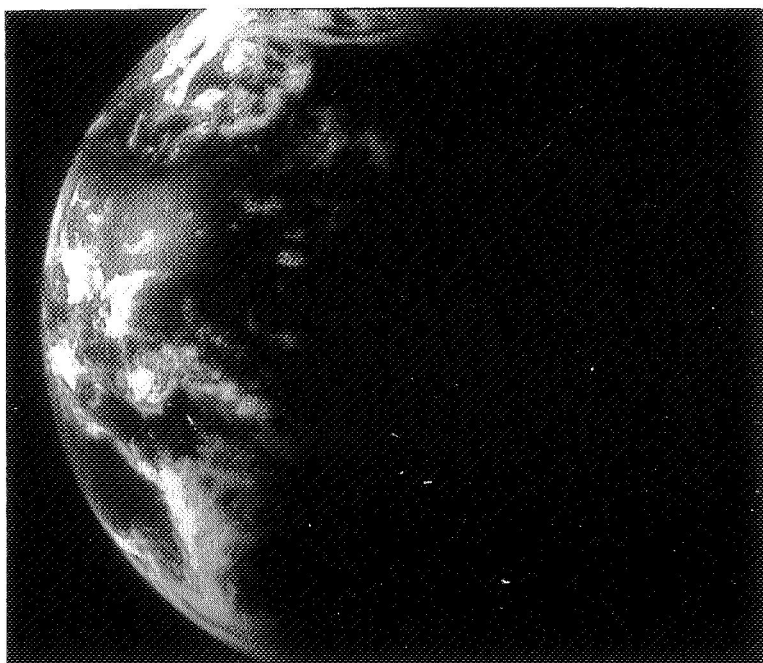
ATS-I 7 AUG 67 03 57 06 Z SEQ 1D



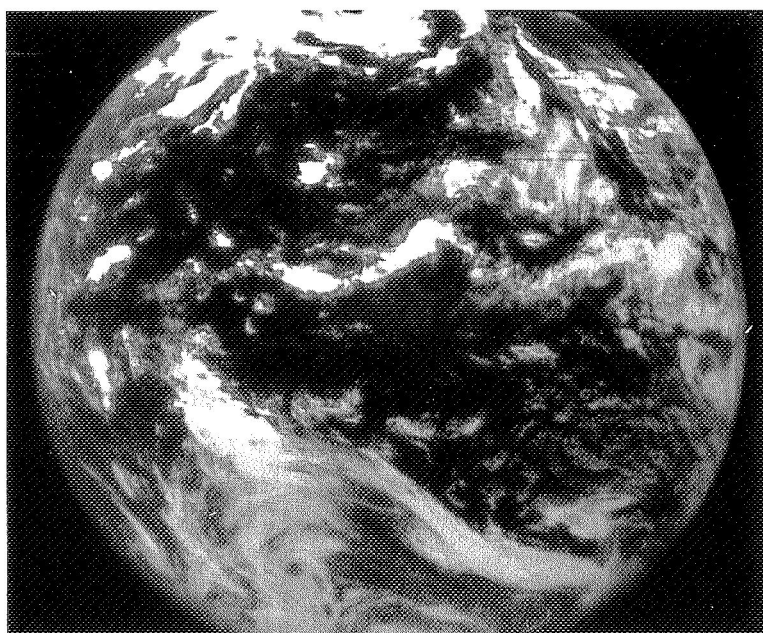
ATS-I 8 AUG 67 23 19 12 Z SEQ 8D

9 AUG 67				SUBSATELLITE PT 149.92W 00.02S		TOTAL PICS 1
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS
01	03 45 55	00	4001			

10 AUG 67				SUBSATELLITE PT 149.92W 00.02S		TOTAL PICS 8
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS
01	03 48 43	00	4001			PE
02	20 49 27	00	3002			PE
03	21 13 01	00	7000			
04	21 36 38	10	3000	6047E 1210E 2230E 2240G 2142F 2141B		US MEX HAW
04	21 36 38	20	4000	2230A 2240A 2140A 4200A		US MEX
04	21 36 38	40	4000	2142A 2240A		
04	21 36 38	50	1000	2142A 2143E 1114D 2141E		
04	21 36 38	60	4000	2141A 2240A		
04	21 36 38	80	4000	2142A 1113A 4200A 2240A		
05	22 00 14	00	7000			
06	22 23 48	00	4000			PE
07	22 47 25	00	7000			
08	23 11 02	00	4001			PE



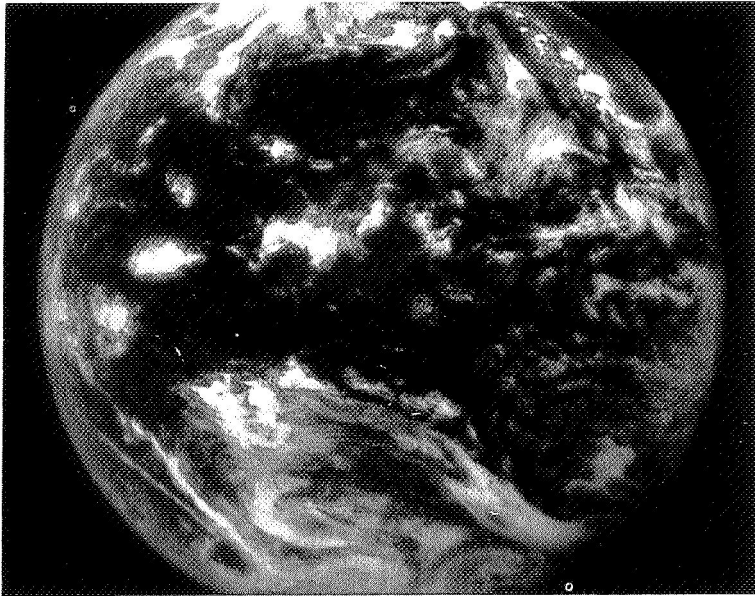
ATS-I 9 AUG 67 03 45 55 Z SEQ 1D



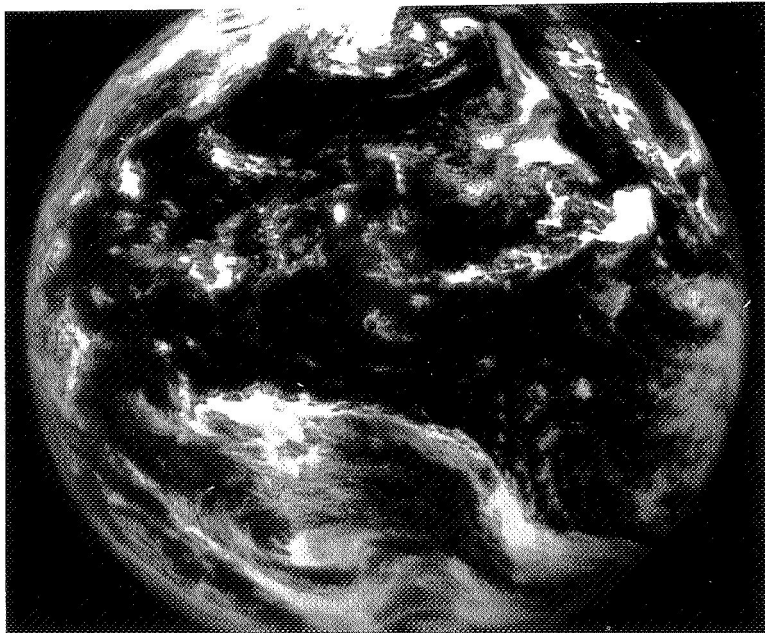
ATS-I 10 AUG 67 21 36 38 Z SEQ 4D

11 AUG 67				SUBSATELLITE PT 149.93W 00.02S		TOTAL PICS 9	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	03 51 00	00	4001			TIME EST	
02	18 04 36	05	5000	5000A			
02	18 04 36	10	3002	1113F	2240G 2230G 2142F 2141C 2144C	US MEX HAW	
02	18 04 36	20	4000	2230A 2142A 2230A 4200A			MEX
02	18 04 36	50	1002	1113E 2142A 2141E			
02	18 04 36	60	4000	2141A 2240A			
03	18 28 11	00	4502				
04	21 22 16	00	3000				
05	21 45 54	00	3000				
06	22 09 28	10	3000	1113F 2142I 2141F 2230G 2240G 4550D	US MEX HAW		
06	22 09 28	20	4000	2142A 2240A 4200A			MEX
06	22 09 28	40	4000	2140A 2240A			
06	22 09 28	50	1000	1113G 2142A 2141A			
06	22 09 28	60	4000	2141A			
06	22 09 28	80	4000	2142A 2240A 4550A			NZ ASTR
07	22 33 03	00	3001				
08	22 56 38	00	3001				
09	23 20 16	00	4001				

12 AUG 67				SUBSATELLITE PT 149.94W 00.02S		TOTAL PICS 8	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	04 18 14	00	4001				
02	18 26 24	10	3002	6048E 1230E 2240G 1113F 2142F 47101	US MEX HAW		
02	18 26 24	20	4000	2240A 2142A 1100A			
02	18 26 24	50	4002	1113G 2142A 2141E			EE
02	18 26 24	60	4000	2240A 2141A			EE
03	21 13 17	00	3000				
04	21 36 56	00	3000				
05	22 00 30	10	3000	6048E 1230E 2240G 1113F 2142J 3100B	US MEX HAW		
05	22 00 30	20	4000	2142A 2240A 4200A			MEX CUBA
05	22 00 30	40	4000	2142A 2240A 1113A			
05	22 00 30	50	1000	2143G 2142A 2141G 1114G			
05	22 00 30	60	4000	2141A 2240A			
05	22 00 30	80	4000	2240A 2142A 4550A 4200A			NZ ASTR
06	22 24 05	00	3000				
07	22 42 41	00	3001				
08	23 11 18	00	4001				



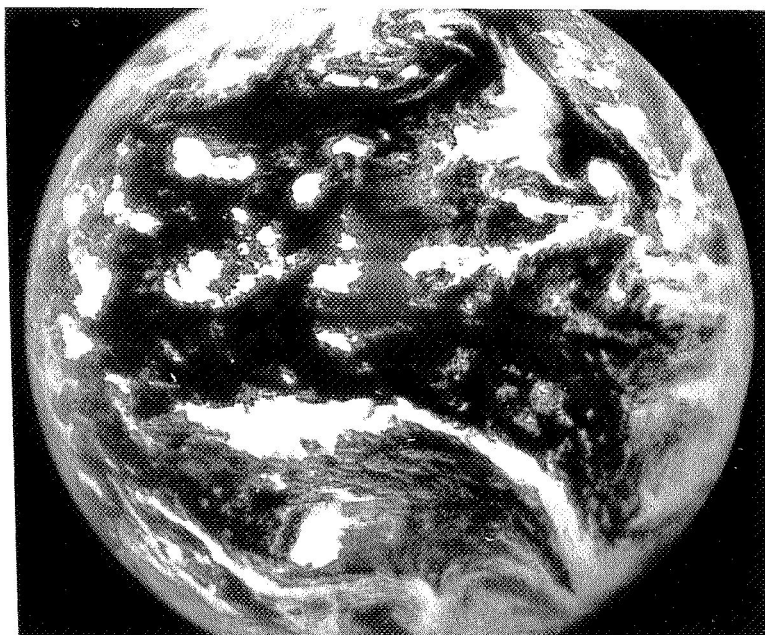
ATS-I 11 AUG 67 22 09 28 Z SEQ 6



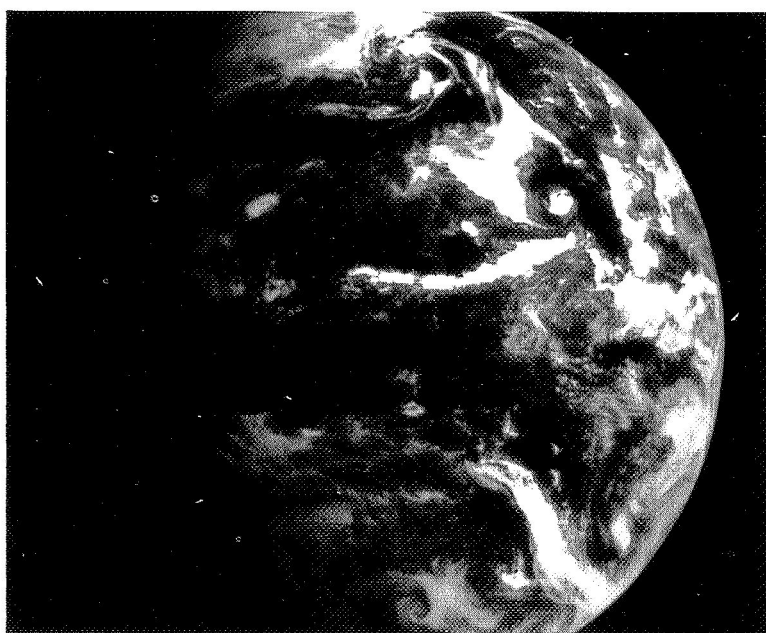
ATS-I 12 AUG 67 22 00 30 Z SEQ 5

13 AUG 67				SUBSATELLITE PT 149.94W 00.02S				TOTAL PICS 8	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 52 52	00	4001						
02	20 50 53	00	3002						
03	21 14 31	00	3002						
04	21 38 08	00	4000					PE PR	
05	22 01 44	10	3000	6048E	1220E	2240G	1113F	2142F 2230G	US MEX HAW
05	22 01 44	20	4000	2140A	2240A	4200A	4550A		US MEX CUBA
05	22 01 44	40	4000	1100A	2142A				
05	22 01 44	50	1000	2142A	2143G	1113G	2240F		
05	22 01 44	60	4000	2240A					
05	22 01 44	80	4000	2142A	1113A	2240A	4200A	ASTR	
06	22 25 19	00	3001						
07	22 48 54	00	3001						
08	23 12 29	00	3001						

14 AUG 67				SUBSATELLITE PT 149.94W 00.02S				TOTAL PICS 2	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 42 12	00	4001						
02	18 09 56	10	3002	6048E	1220E	2240G	2230E 1113F 2142F	US MEX HAW	
02	18 09 56	20	4000	2240A	2230A	4200A	4550A	MEX CUBA	
02	18 09 56	50	1002	2145G	2143I	2142L	2141E		
02	18 09 56	60	4000	2141A	2230A				



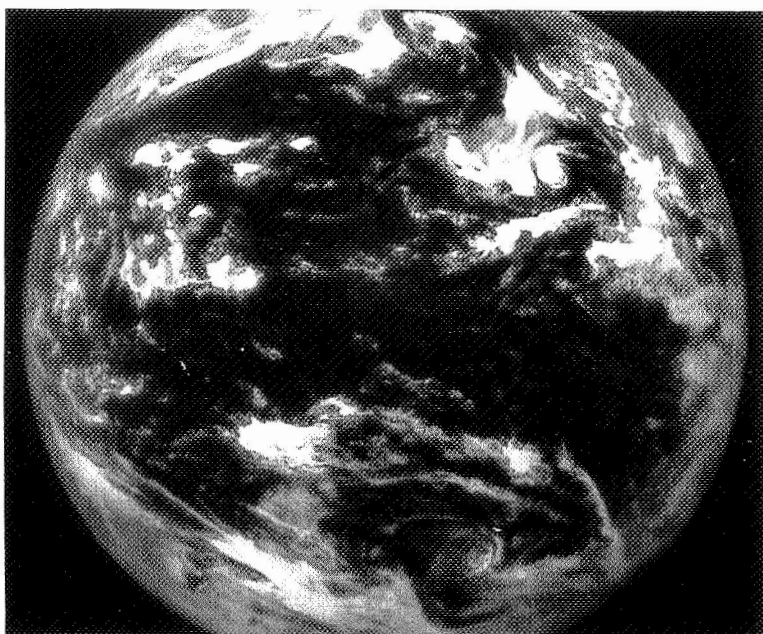
ATS-I 13 AUG 67 22 01 44 Z SEQ 5



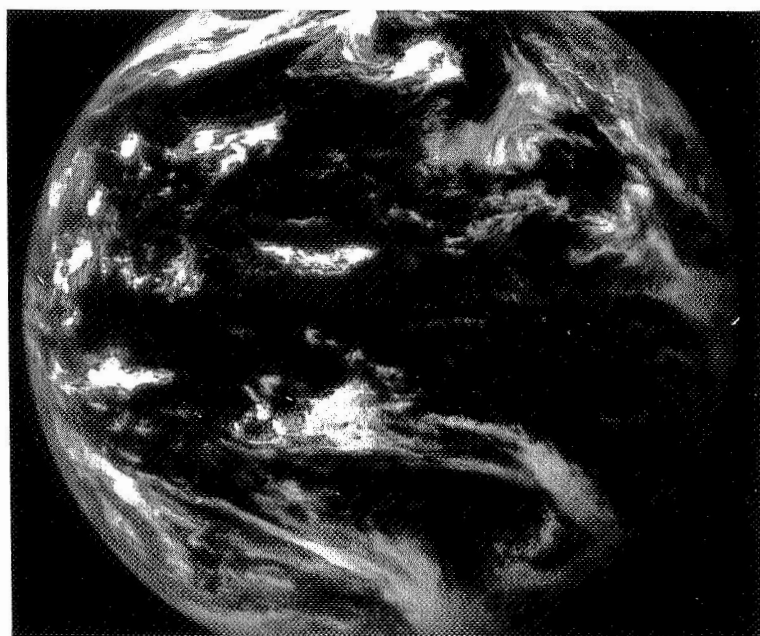
ATS-I 14 AUG 67 18 09 56 Z SEQ 2

15 AUG 67				SUBSATELLITE PT 149.93W 00.02S	TOTAL PICS 29
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS	REMARKS
01	13 17 30	00	4002		
02	13 41 04	00	7000		
03	13 43 54	00	4002		
04	14 07 31	00	4002		
05	14 31 06	00	4002		
06	14 54 41	00	4002		
07	15 15 18	00	4002		
08	15 41 57	00	4002		
09	16 05 32	00	4002		
10	16 29 09	10	4002	6048E 1220E 1113B 2142B 2240A 2230E	US MEX
10	16 29 09	20	4000	2240A 2140A 4200A	MEX
10	16 29 09	50	4002	1113E 21421 2141E	
10	16 29 09	60	4000	2141A 2240A	
11	16 52 44	00	4002		
12	17 16 22	00	4002		
13	17 39 57	00	4002		
14	18 03 35	00	4002		
15	18 27 11	00	4002		
16	18 50 48	00	4002		
17	19 14 15	10	1002	6048E 1210E 2240G 2230E 1113F 2145C	US MEX
17	19 14 15	20	4000	2140A 2240A 4200A 4550A	MEX CUBA
17	19 14 15	40	5002	5000A	
17	19 14 15	50	1002	1114G 2143E 2145E 2142A 2141G	
17	19 14 15	60	4000	2141A 2240A	
17	19 14 15	80	5002	2142A	
18	19 38 01	00	3002		PR PE
19	20 01 36	00	3002		
20	20 25 11	00	3002		
21	20 48 51	00	3002		
22	21 12 24	00	3000		
23	21 36 01	00	3000		
24	21 59 37	10	3000	6048E 1221E 2240G 2230E 1113F 2142F	US MEX HAW
24	21 59 37	20	4000	2140A 2240A	
24	21 59 37	40	4000	2230A	
24	21 59 37	50	1000	1114G 2143G 2142A 2141G	
24	21 59 37	60	4000	2141A 2240A	
24	21 59 37	80	4000	2142A	
25	22 23 14	00	3000		
26	22 46 50	00	3001		
27	23 10 27	00	3001		
28	23 34 02	00	3001		
29	23 57 40	00	1001		

16 AUG 67				SUBSATELLITE PT 149.93W 00.02S	TOTAL PICS 20
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS	REMARKS
01	00 21 15	10	1001	6048E 1230E 2240G 2142F 2141F 4200H	US MEX HAW
01	00 21 15	20	5001	5000A	
01	00 21 15	40	4000	2240A 2230A 2142A	
01	00 21 15	50	1001	1114E 2143D 2142A 2141G	
01	00 21 15	80	4000	2142A 2240A 4550A	NWGN
02	00 44 53	00	4001		
03	01 08 28	00	4001		
04	01 32 08	00	4001		
05	01 55 40	00	4001		
06	02 19 19	00	4001		
07	02 42 50	00	4001		
08	03 06 28	00	4001		
09	03 30 03	00	4001		
10	03 53 42	00	4001		
11	04 16 16	00	4001		
12	04 40 50	00	4001		
13	05 04 29	00	4001		
14	05 28 04	00	4001		
15	05 51 42	00	4001		
16	06 15 16	00	4001		PR
17	06 38 56	00	4001		
18	18 27 38	10	3002	6048E 1231E 2230E 2240G 2145C 4200H	US MEX HAW
18	18 27 38	20	4000	2240A 2140A 4200A 4550A	MEX CUBA PE
18	18 27 38	50	1002	1114E 2142A 2141E 2145E 2144E 2240A	PE
18	18 27 38	60	4000	2141A 2240A	PE
19	22 54 05	10	3000	6048E 1221E 2143C 2142F 2141C 2240G	US MEX HAW
19	22 54 05	20	4000	2240A 4200A	MEX
19	22 54 05	40	4000	2230A 1100A 2140A	
19	22 54 05	50	1000	1114E 2145E 2142A 2141E	
19	22 54 05	60	4001	2240A 2240A	
19	22 54 05	80	4000	2142A 2240A 1100A 4200A 4550A	ASTR NWGN
20	23 17 40	00	3001		



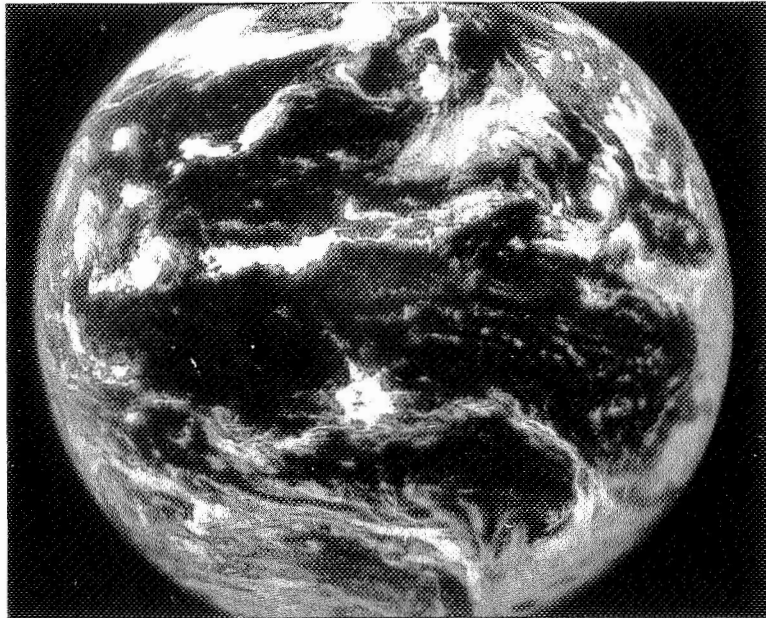
ATS-I 15 AUG 67 21 59 37 Z SEQ 24



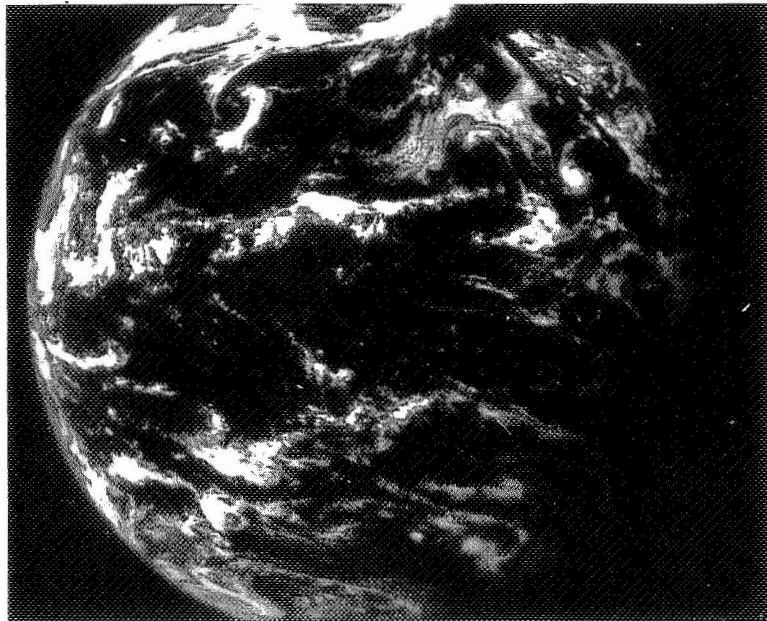
ATS-I 16 AUG 67 22 54 05 Z SEQ 19

17 AUG 67				SUBSATELLITE PT 149.92W 00.02S		TOTAL PICS 7	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	03 52 03	00	4001				
02	21 31 45	00	3000				
03	21 55 23	10	3000	6048E 1211E 2240G 2230E 2143F 2142C	US MEX HAW		
03	21 55 23	20	4000	2240A 2142A 4200A			
03	21 55 23	40	4000	2142A 1100A 6649A 1210A			
03	21 55 23	50	1000	1114E 2143E 2142A 2141E			
03	21 55 23	60	4000	2141A 2240A			
03	21 55 23	80	4000	2142A 2240A			
04	22 18 58	00	3000			PE	
05	22 42 33	00	3001				
06	23 06 08	00	3001				
07	23 29 46	00	3001				

18 AUG 67				SUBSATELLITE PT 149.91W 00.02S		TOTAL PICS 3	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	04 02 02	00	4001				
02	23 11 20	10	4000	6049E 1210E 2143C 2142F 2141C 2240G	PC US MEX HAW		
02	23 11 20	20	4001	2140A 2240A 4200A	PC MEX		
02	23 11 20	40	4000	1100A 2140A 2240A 6649A 1210A	PC		
02	23 11 20	50	4001	2142A	PC		
02	23 11 20	60	5001	5000A	PC		
02	23 11 20	80	4000	2142A	PC		
03	23 34 57	00	4001			PC	



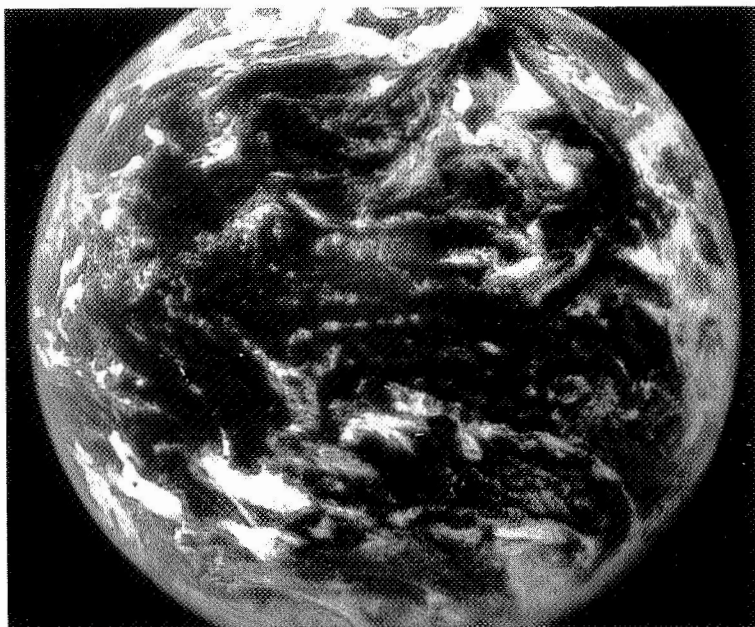
ATS-I 17 AUG 67 21 55 23 Z SEQ 3



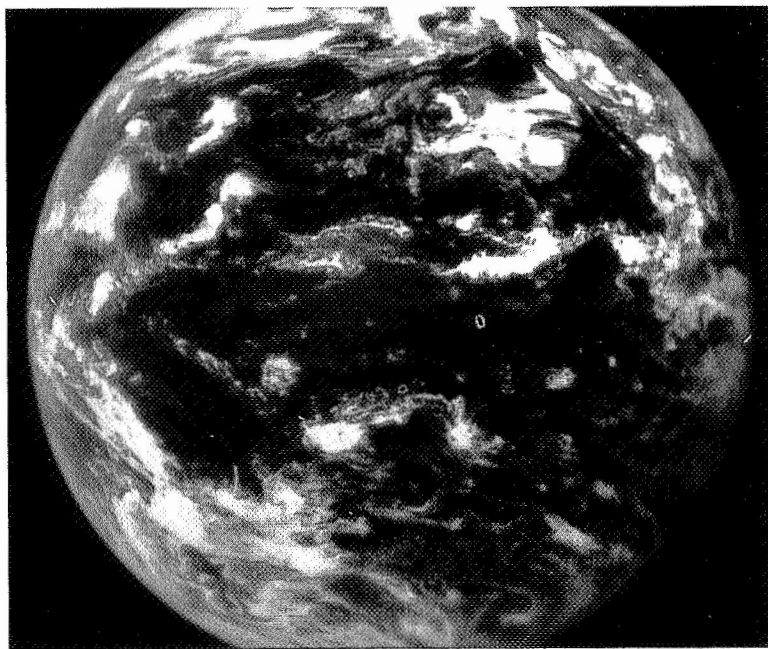
ATS-I 18 AUG 67 23 11 20 Z SEQ 2

19 AUG 67				SUBSATELLITE PT 149.90W 00.02S		TOTAL PICS 7	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	03 28 27	00	4001				
02	21 31 56	00	3000				
03	21 55 32	10	3000	6049E 1210E 2240G 2230E 2143C 2142A	US MEX HAW		
03	21 55 32	20	4000	2240A 2140A 4200A	MEX		
03	21 55 32	40	4000	6649A 2240A 2142A			
03	21 55 32	50	1000	1114G 2142 1113E 2145E			
03	21 55 32	60	4000	2141A 2240A			
03	21 55 32	80	4000	1113A 2142A 4200A	ASTR		
04	22 19 06	00	3000				
05	22 42 44	00	3001				
06	23 06 22	00	3001				
07	23 29 58	00	3001				

20 AUG 67				SUBSATELLITE PT 149.93W 00.02S		TOTAL PICS 5	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	03 30 05	00	4001				
02	18 10 42	10	3002	6049E 1230E 2240G 2230E 1113F 2142F	US MEX		
02	18 10 42	20	4000	2230A 2240A 2142A 4200A 4550A	MEX CUBA		
02	18 10 42	50	1002	2142J 1114G 2240B			
02	18 10 42	60	4000	2143A			
03	22 27 59	10	3000	6049E 1220E 2240G 2230G 1113F 2142F	US MEX		
03	22 27 59	20	4000	2240A 2140A 4200A 4550A	MEX CUBA		
03	22 27 59	40	4000	2230A 2140A			
03	22 27 59	50	1000	1114G 2142A 2230C			
03	22 27 59	60	4000	2240A 2140A			
03	22 27 59	80	4000	1113A 2142A 4550A 4200A	NZ ASTR		
04	22 51 37	00	3001				
05	23 15 12	00	3001				



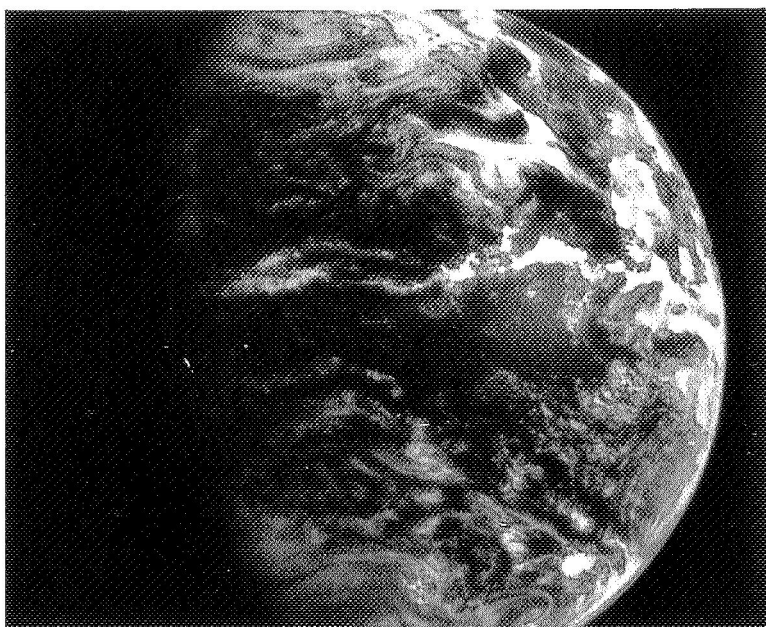
ATS-I 19 AUG 67 21 55 32 Z SEQ 3



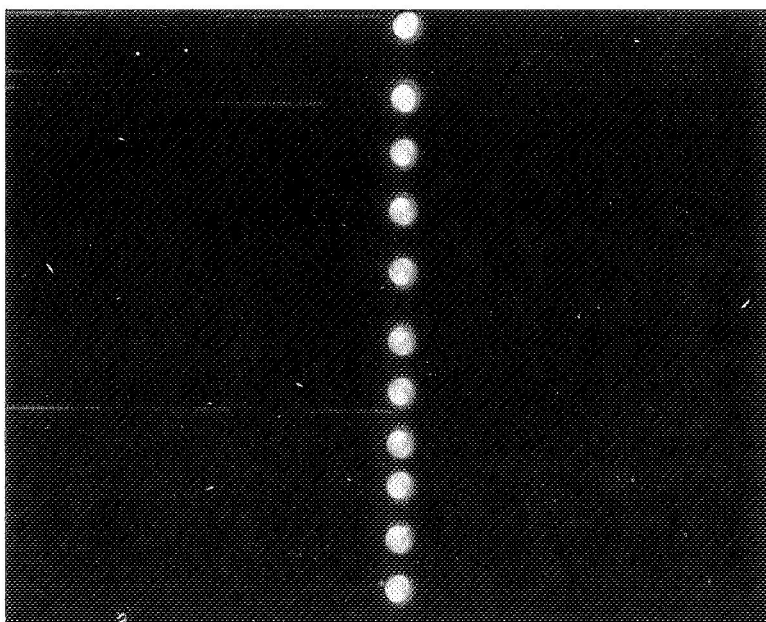
ATS-I 20 AUG 67 22 27 59 Z SEQ 3

21 AUG 67				SUBSATELLITE PT 149.95W 00.02S				TOTAL PICS 2		
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS		
01	03 47 38	00	4001							
02	18 10 28	10	3002	6049E	1210E	2240G	2230E	1113F	2140F	US MEX
02	18 10 28	20	4000	2230A	2140A	4200A	4550A			MEX CUBA
02	18 10 28	50	1002	1114E	3100A					
02	18 10 28	60	4000	2240A	2140A					

22 AUG 67				SUBSATELLITE PT 149.97W 00.02S				TOTAL PICS 2	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	05 03 53	00	8000	8000A					
02	05 45 00	00	8000	8000A					11 MOON PICS



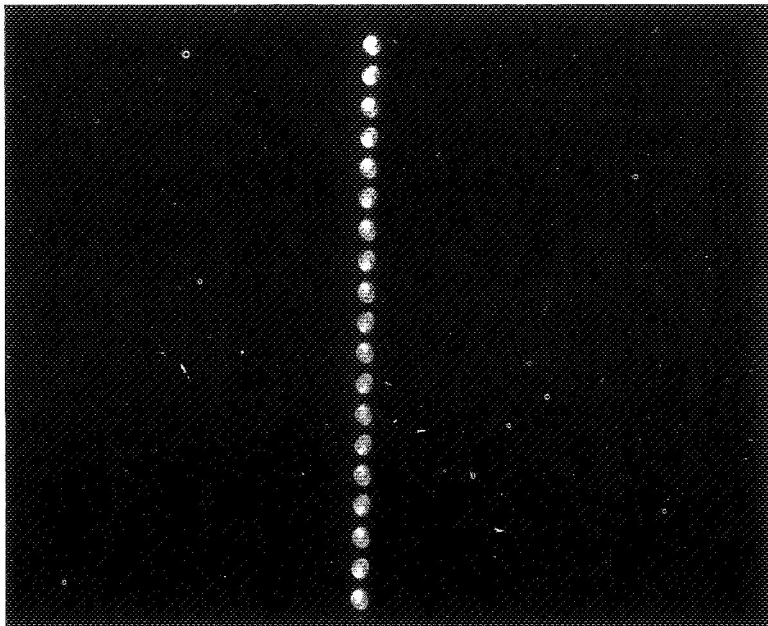
ATS-I 21 AUG 67 18 10 28 Z SEQ 2



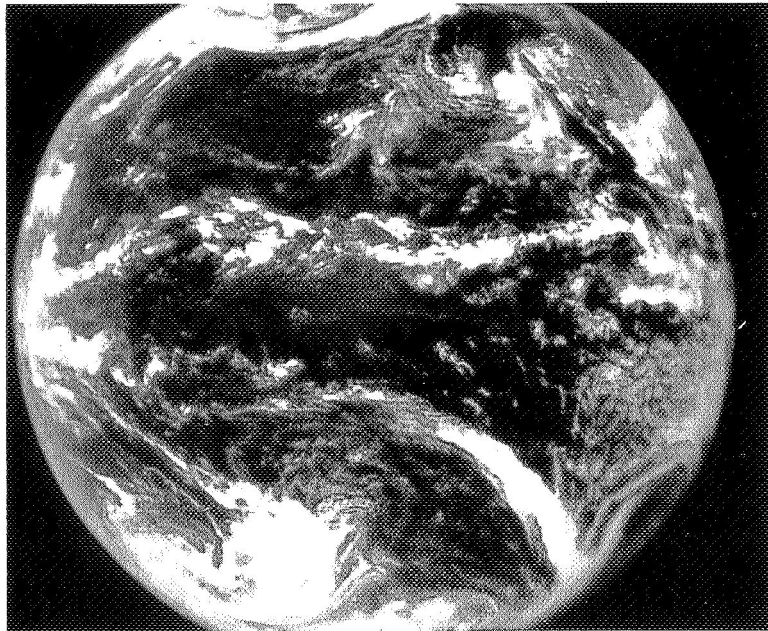
ATS-I 22 AUG 67 05 45 00 Z SEQ 2D

		23 AUG 67	SUBSATELLITE PT 149.85W 00.03S		TOTAL PICS 2
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
01	05 04 00	00	8000	8000A	19 MOON PICS
02	05 38 21	00	8000	8000A	18 MOON PICS

		24 AUG 67	SUBSATELLITE PT 149.90W 00.03S		TOTAL PICS 23
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
01	00 18 40	10	4001	2240G 2142F 2141C 1120I 4200H 4550D	PE US MEX HAW
01	00 18 40	20	4001	2140A	PE
01	00 18 40	40	4000	1113A 2142A 2240A	PE
01	00 18 40	50	4001	2143D 2142A 2141D 1125G	
01	00 18 40	80	4000	2142A 2230A 1113A 4200A	ASTR
02	00 42 16	00	4001		PE
03	13 45 13	00	4002		PE
04	16 07 44	00	4002		
05	16 31 22	05	5002	2140A	
05	16 31 22	10	4002	1113F 2143B 2142F 2141B 2240G 2230E	US MEX
05	16 31 22	20	4000	2140A 2230A 2240A	
05	16 31 22	50	4002	2145F 2142M 2144E 2141H	
05	16 31 22	60	4000	2141A 2240A	PR
06	16 54 57	00	4002		
07	17 18 35	00	4002		
08	17 42 10	00	7002		
09	18 05 47	00	4002		PR
10	18 32 51	00	3002		
11	18 56 28	10	3002	2240G 2230E 2143B 2142F 2141F 1113C	US MEX
11	18 56 28	20	4000	2140A 2230A 4550A 4200A	CUBA MEX
11	18 56 28	40	5002	5000A	
11	18 56 28	50	1002	2145E 2144E 2142A 2141H 2243D	
11	18 56 28	60	4000	2141A 2230A	
11	18 56 28	80	4002	2142A	
12	19 20 03	00	3002		
13	19 43 41	00	3502		
14	20 10 02	00	3002		PE
15	20 33 41	00	3002		
16	20 57 15	00	3000		
17	21 21 52	00	3000		
18	21 44 30	00	3000		
19	22 08 05	10	3000	2143C 2142F 2141C 3100A 2240G 2230E	US MEX HAW
19	22 08 05	20	4000	2140A 2240A 4550A 4200A	MEX CUBA
19	22 08 05	40	4000	2140A 2240A 2230A	
19	22 08 05	50	1000	2145E 2144E 2142A 2141H 1113E	
19	22 08 05	60	4000	2141A	
19	22 08 05	80	4000	2142A 1113A 2240A 4200A	ASTR
20	22 31 43	00	3000		
21	22 55 18	00	3001		
22	23 18 57	00	3001		PR
23	23 42 32	00	3001		



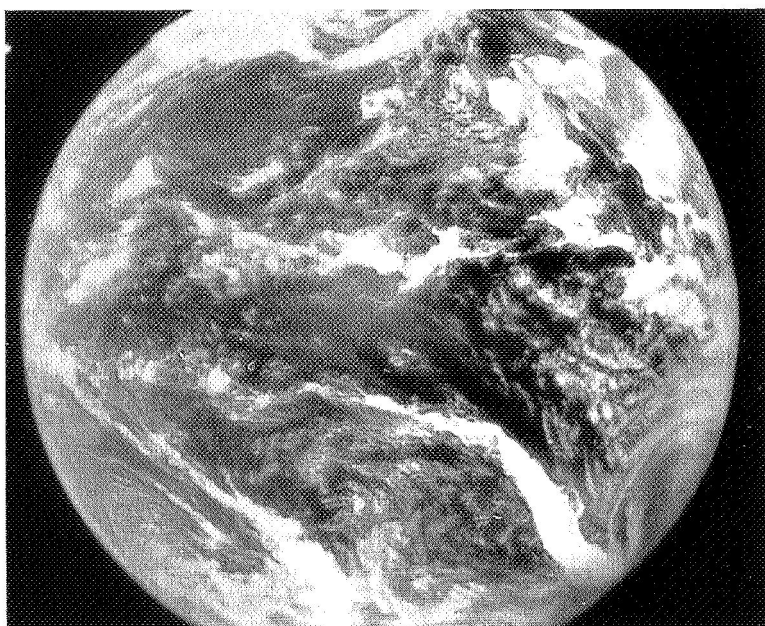
ATS-I 23 AUG 67 05 04 00 Z SEQ 1



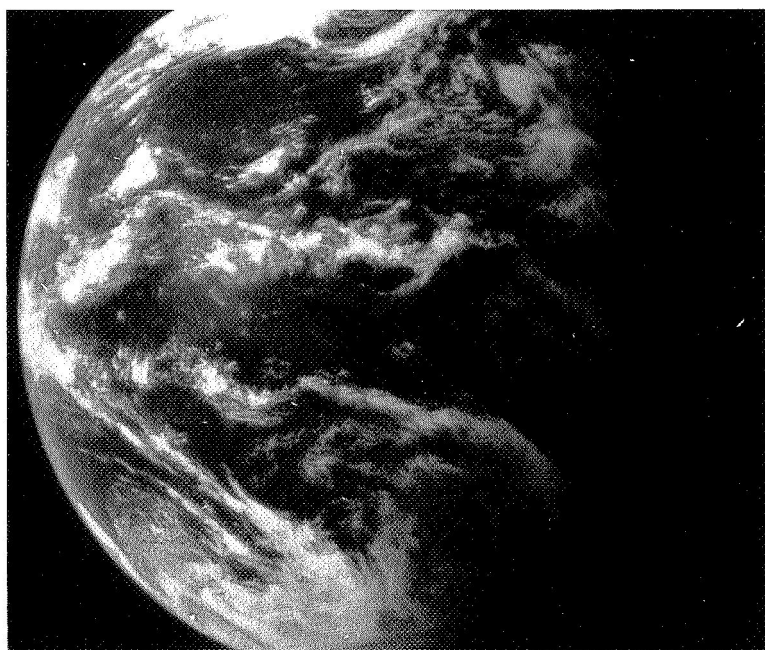
ATS-I 24 AUG 67 22 08 05 Z SEQ 19

25 AUG 67				SUBSATELLITE PT 149.94W 00.03S	TOTAL PICS 44
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS	REMARKS
01	00 06 07	00	4001		
02	00 29 45	00	4001		
03	00 53 19	10	4001	2140G 2143C 2141C 2142F 3100A	MEX
03	00 53 19	40	4000	2230A 2240A 2140A	
03	00 53 19	50	1001	2142A 2143D 2141D	
03	00 53 19	80	4000	1113A 2141A 2230A 4200A	ASTR
03	00 53 19	90	5001	5000A	
04	01 16 57	00	4001		
05	01 40 32	00	4001		PR
06	02 04 10	00	4001		
07	02 27 47	00	4001		
08	02 51 23	00	4001		
09	03 14 58	00	7000		
10	03 38 35	00	4001		
11	04 02 11	00	4001		
12	04 25 49	00	4001		
13	04 49 27	00	4001		
14	05 13 02	00	4001		
15	05 36 40	00	4001		
16	06 00 14	00	4001		
17	06 23 53	00	5001		
18	13 20 24	00	5002		PE
19	13 52 33	00	4002		
20	14 16 07	00	4002		
21	14 39 42	00	4002		
22	15 03 20	00	4002		
23	15 27 04	00	4002		
24	15 50 31	00	4002		
25	16 14 08	05	5002	2140A	
25	16 14 08	10	3002	2145B 2144B 2142F 2141B 1113F 2230E	US MEX
25	16 14 08	20	4000	2140A	
25	16 14 08	50	4002	2142M 2141H	
25	16 14 08	60	4000	2141A 2142A 2145A 2240A	
26	16 38 10	00	3002		
27	17 02 20	00	3002		
28	17 24 56	00	3002		
29	17 48 34	00	3002		PE
30	18 12 12	00	3002		PE
31	18 35 47	00	3002		PE
32	18 59 25	10	3002	2143C 2142F 2141F 2240G 2230E 1113F	US MEX
32	18 59 25	20	4000	2140A 2240A 2230A 4550A 4200A	MEX CUBA FLA
32	18 59 25	40	5002	5000A	
32	18 59 25	50	1000	2142A 2141L 1113D	
32	18 59 25	60	4000	2141A 2240A	
32	18 59 25	80	4002	2142A	
33	19 23 00	00	3002		
34	19 46 33	00	3002		
35	20 10 13	00	3002		PE
36	20 33 48	00	3002		PE
37	20 57 26	00	3000		PE
38	21 21 01	00	3000		PE
39	21 44 37	00	3000		PE
40	22 08 11	10	3000	2143C 2142F 2141F 2240G 2230G 1113C	PE US MEX
40	22 08 11	20	4000	2140A 2230A	PE
40	22 08 11	40	4000	2230A 2140A	PE
40	22 08 11	50	1000	2143E 2142A 2141H 1113G 2240B	
40	22 08 11	60	4000	2141A 2240A	
40	22 08 11	80	4000	2142A 2240A 1113A 4200A	ASTR
41	22 31 50	00	3000		PE
42	22 55 26	00	3001		PE
43	23 29 46	00	3001		PE
44	23 53 21	00	3001		PE

26 AUG 67				SUBSATELLITE PT 149.99W 00.03S	TOTAL PICS 17
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS	REMARKS
01	00 16 58	00	4001		PE
02	00 40 36	00	4001		PE
03	01 04 11	10	4001	2143C 2142F 2141C 2240G 2230D 3100A	PE US
03	01 04 11	40	4000	2140A 2230A	PE
03	01 04 11	50	4001	2142A 2143D 2141D 1113D	
03	01 04 11	80	4000	2142A 2230A 4200A	ASTR
04	01 27 50	00	4001		PE
05	01 51 28	00	4001		PE
06	02 15 02	00	4001		PE
07	02 38 40	00	4001		PE
08	03 02 18	00	4001		PE
09	03 25 54	00	4001		PE
10	03 49 31	00	4001		PE
11	04 13 09	00	4001		PE
12	04 36 44	00	4001		PE
13	05 00 23	00	4001		PE
14	05 24 00	00	4001		PE
15	05 47 35	00	4001		PE
16	06 11 13	00	4001		
17	06 34 50	00	5001		



ATS-I 25 AUG 67 22 08 11 Z SEQ 40



ATS-I 26 AUG 67 01 04 11 Z SEQ 3

27 AUGUST 1967 NO DATA AVAILABLE

28 AUGUST 1967 NO DATA AVAILABLE

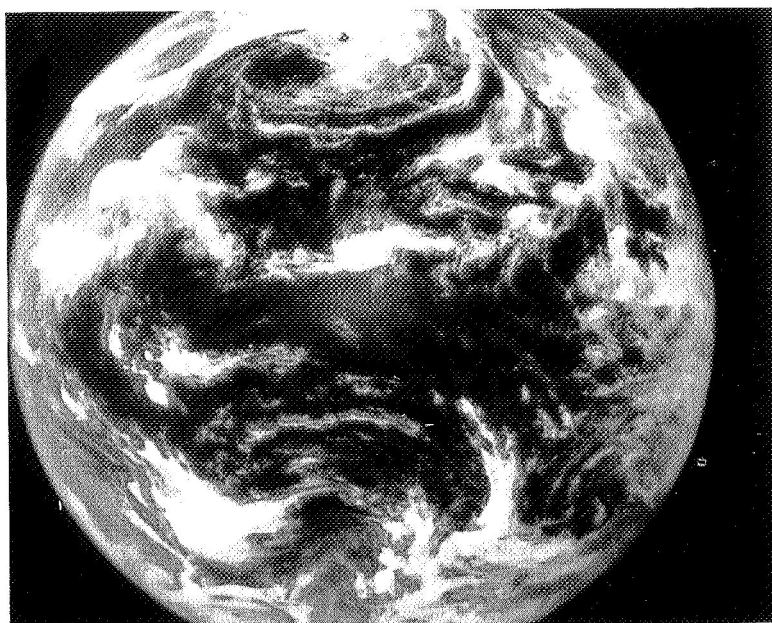
29 AUGUST 1967 NO DATA AVAILABLE

30 AUGUST 1967 NO DATA AVAILABLE

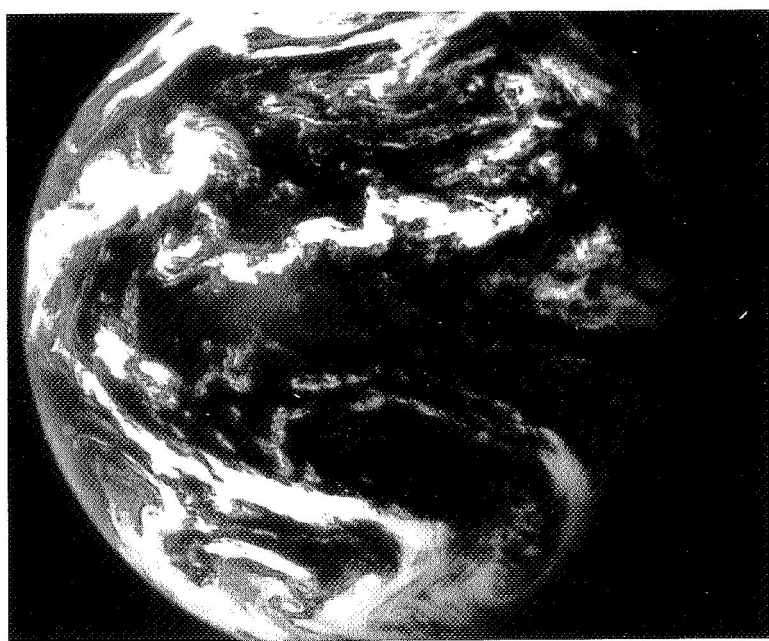
31 AUG 67				SUBSATELLITE PT 150.17W 00.02S		TOTAL PICS 10	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	18 17 06	00	4002			PE	
02	18 40 40	00	4002			PE	
03	19 04 18	00	4002			PE	
04	19 27 57	00	7000				
05	21 28 14	00	3000			PE	
06	21 51 51	10	3000	6050E 1230E 2240G 6654D 1230D 1125B	PE US MEX HAW		
06	21 51 51	20	4000	2140A 2230A 2240A 4200A	PE FLA		
06	21 51 51	40	4000	2142A 2230A 1113A			
06	21 51 51	50	1000	2143F 2142A 2141M 1113F 2240F			
06	21 51 51	60	4000	2141A 2240A			
06	21 51 51	80	4000	2142A 1113A 4200A 4550A	ASTR NWGN		
07	22 15 26	00	3000			PE	
08	22 39 01	00	3001			PE	
09	23 02 39	00	3001			PE	
10	23 26 14	00	3001			PE	

1 SEPTEMBER 1967 NO DATA AVAILABLE

2 SEP 67				SUBSATELLITE PT 150.26W 00.02S		TOTAL PICS 2	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS	
01	22 58 50	00	4001			PE	
02	23 58 02	10	4001	2145C 2144C 2142F 2141F 6654D 1220D	MEX		
02	23 58 02	20	5001	5000A			
02	23 58 02	40	4000	6654A 1220A 2230A 2142A			
02	23 58 02	50	1001	1113G 2143D 2142A 2141G			
02	23 58 02	60	5001	5000A			
02	23 58 02	80	4000	1125A 2142A 2230A			



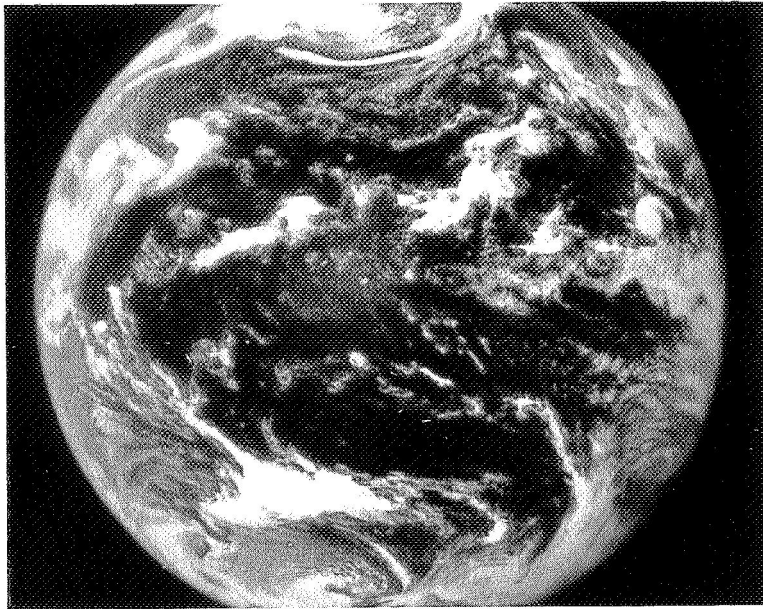
ATS-I 31 AUG 67 21 51 51 Z SEQ 6



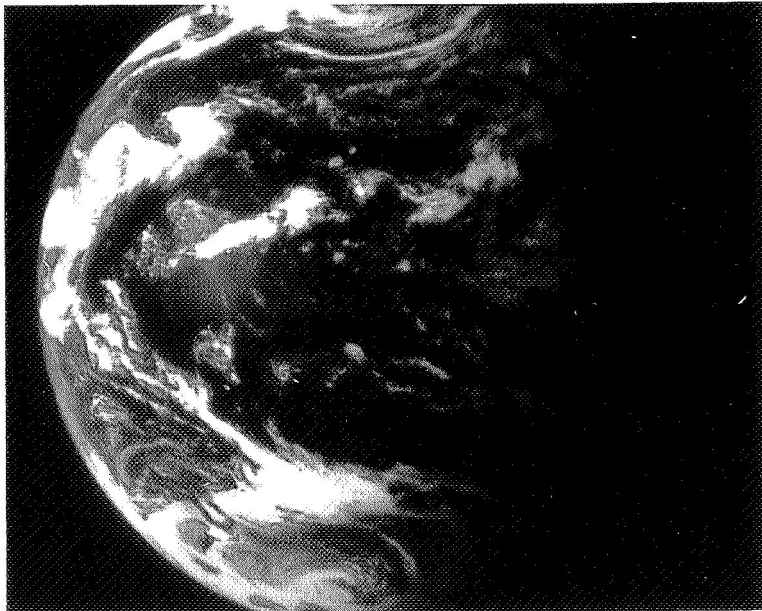
ATS-I 2 SEP 67 23 58 02 Z SEQ 2

3 SEP 67				SUBSATELLITE PT 150.30W 00.02S				TOTAL PICS 6		
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS					REMARKS	
01	01 01 11	00	4001							
02	21 29 17	00	3000							
03	21 52 51	00	3000							
04	22 16 30	10	3000	2143F	2142F	2141F	1220E	2240G	2230G	US MEX
04	22 16 30	20	4000	2240A	2140A	4200A				US MEX
04	22 16 30	40	4000	6654A	1220A	2230A	1113A	2142A		
04	22 16 30	50	1000	1113G	2143K	2142A	2141G			
04	22 16 30	60	4000	2141A	2240A					
04	22 16 30	80	4000	2142A	1113A	2240A				
05	22 40 03	00	3001							
06	23 03 42	00	3001							

4 SEP 67				SUBSATELLITE PT 150.35W 00.02S				TOTAL PICS 2		
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS					REMARKS	
01	01 14 21	10	1001	2143C	2142F	2141C	2230D	2240G	4550A	HAW
01	01 14 21	40	4000	6654A	1230A	2240A	2230A	2142A	1110A	
01	01 14 21	50	1001	1113D	2143I	2142I	2141I			
01	01 14 21	80	4000	2142A	1113A	2230A	4200A			
02	04 29 43	00	4001						ASTR	



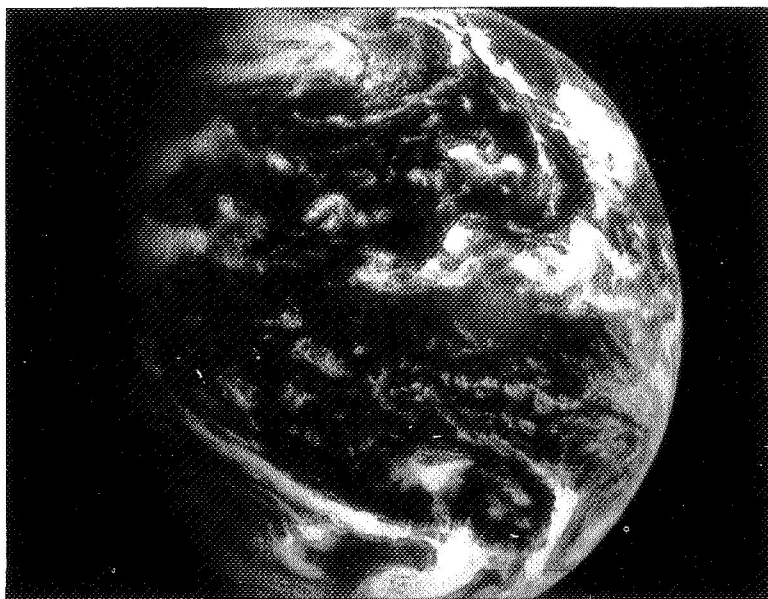
ATS-I 3 SEP 67 22 16 30 Z SEQ 4



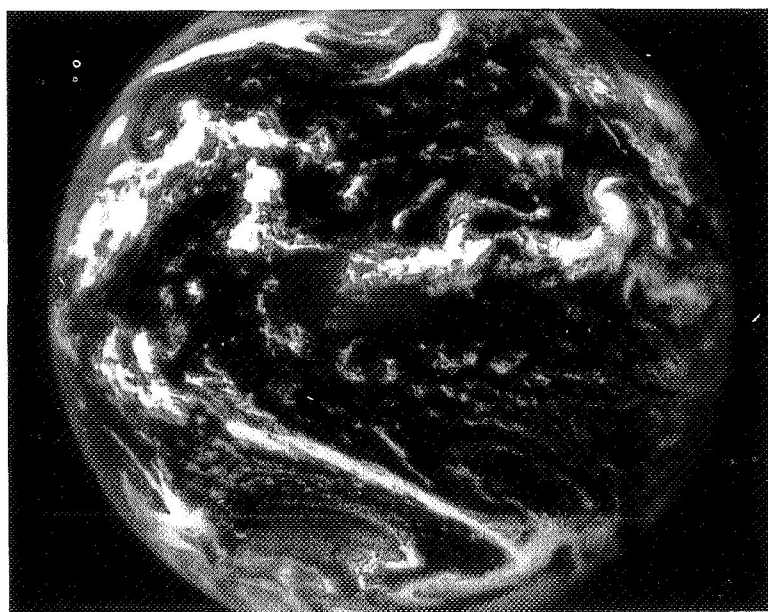
ATS-I 4 SEP 67 01 14 21 Z SEQ 1

SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
5 SEP 67 SUBSATELLITE PT 150.39W 00.02S TOTAL PICS 1					
01	18 37 57	10	3002	6051E 1210E 2240G 2230E 2143C 4200A	US MEX HAW
01	18 37 57	20	4000	2240A 4200A 4550A	MEX CUBA
01	18 37 57	50	1002	1113G 2145E 2142A 2141E	
01	18 37 57	60	4000	2142A 2240A 2141A	
01	18 37 57	80	5002	5000A	

SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
6 SEP 67 SUBSATELLITE PT 150.43W 00.02S TOTAL PICS 5					
01	01 40 00	10	4001	1200G 2240G 2230D 1113C 2143C 2142F	
01	01 40 00	40	4000	6654A 1230A 2240A 2142A	
01	01 40 00	50	4001	2143D 2142I 2141G	
01	01 40 00	80	4000	2142A 2230A 1113A 4200A	ASTR
02	03 54 49	00	4001		
03	21 36 30	00	4000		PE
04	22 00 05	00	3000		PE
05	22 23 41	10	3000	6051E 1220E 2240G 2230G 2142F 2141C	US MEX HAW
05	22 23 41	20	4000	2240A 2140A 4200A 4550A	MEX CUBA
05	22 23 41	40	4000	2230A 2142A 2330A 6654A 1220A	
05	22 23 41	50	1000	2145E 2144E 2142A 2141E 1113G	
05	22 23 41	60	4000	2240A	
05	22 23 41	80	4000	2142A 1113A 2230A 4200A	ASTR



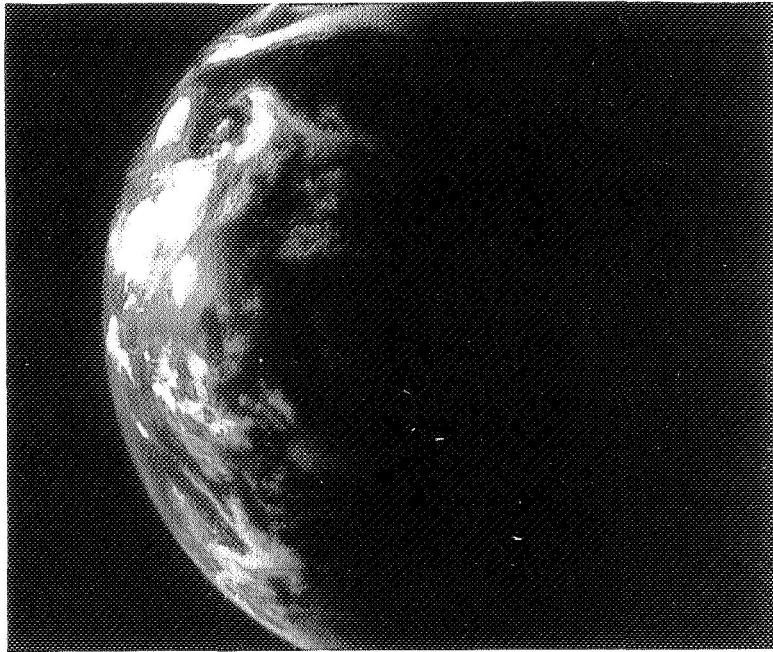
ATS-I 5 SEP 67 18 37 57 Z SEQ 1



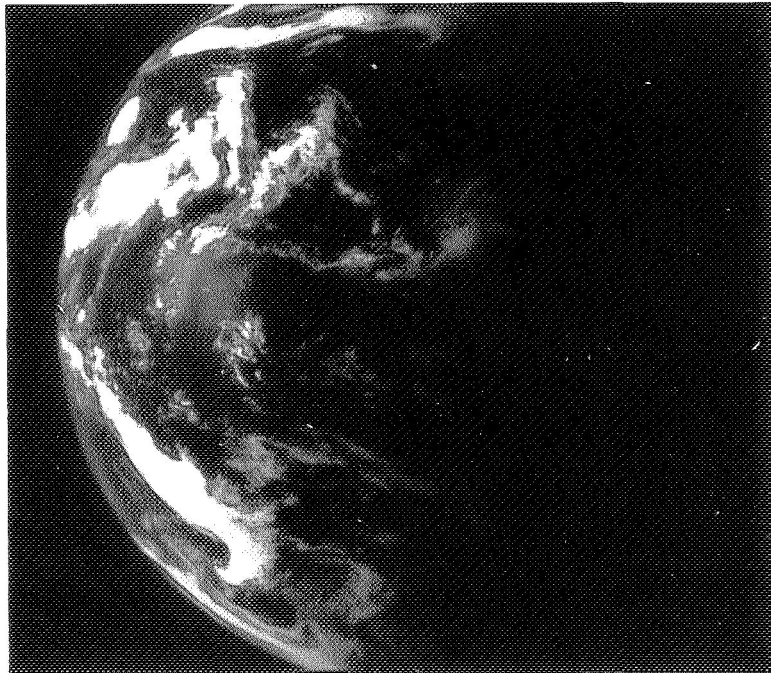
ATS-I 6 SEP 67 22 23 41 Z SEQ 5D

7 SEP 67				SUBSATELLITE PT 150.47W 00.02S				TOTAL PICS 1	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	04 17 36	00	4001						

8 SEP 67				SUBSATELLITE PT 150.51W 00.02S				TOTAL PICS 1	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	02 34 40	10	4001	2240G	2230D	2240F	6656D	1220D	4610D
01	02 34 40	40	4000	6654A	1230A	2230A			
01	02 34 40	50	4001	2141D	2142C				
01	02 34 40	80	4000	2145A	2144A	2142A	2141A	2240A	4550A
01	02 34 40	90	5001	5000A					NWGN



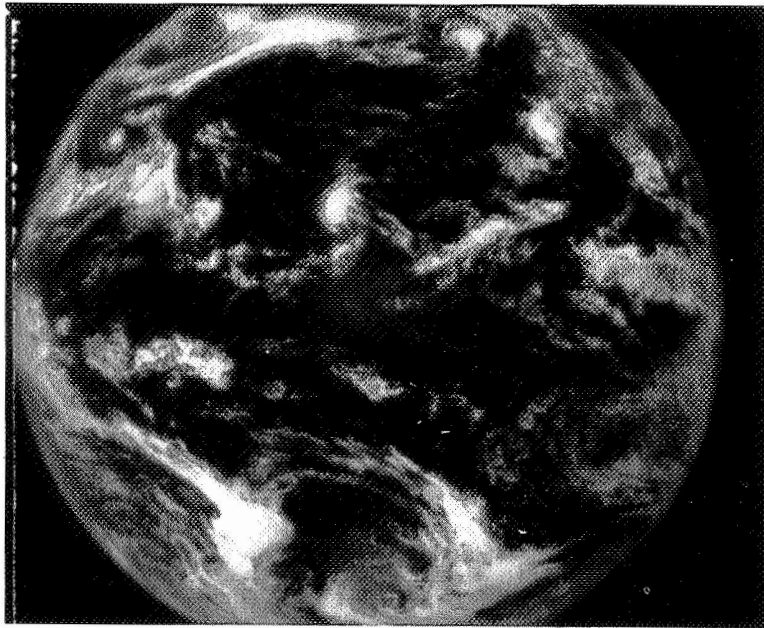
ATS-I 7 SEP 67 04 17 36 Z SEQ 1



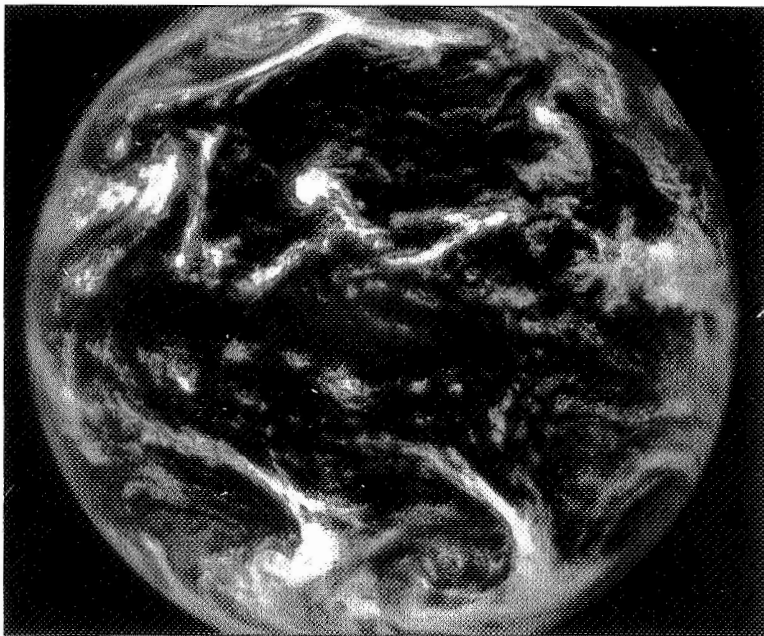
ATS-I 8 SEP 67 02 34 40 Z SEQ 1

9 SEP 67				SUBSATELLITE PT 150.54W 00.02S				TOTAL PICS 19	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	00 56 45	10	1001	6657E	1221E	6051E	1220E 2142F 1125C		
01	00 56 45	40	4000	6654A	1220A	2230A		PE	
01	00 56 45	50	1001	1113D	2142A	2241G	2240A		
01	00 56 45	80	3000	2142A	2240A	4550A	4200A	NWGN ASTR	
02	01 19 40	00	4001					PE	
03	01 43 16	00	4001					PE	
04	14 51 12	00	7000						
05	15 15 18	00	4002						
06	15 51 00	00	4002					PE	
07	16 14 34	10	4002	6051E	1210E	2240E	2140B 2230E		
07	16 14 34	20	4000	2240A	2230A	2142A	4200A 4550A	MEX CUBA PE	
07	16 14 34	50	4002	1113E	2142H	2141E		PE	
07	16 14 34	60	4000	2141A	2240A			PE	
08	16 38 09	00	4002					PE	
09	17 01 46	00	4002					PE	
10	17 25 21	00	4002					PE	
11	17 49 05	00	4002					PE	
12	18 12 34	00	4002					PE	
13	18 36 14	00	1002					PE	
14	21 01 26	00	3000					PE	
15	21 28 00	00	3000					PE	
16	21 51 37	10	3000	6051E	1220E	6657D	1220D 6656E 1210D	US MEX HAW	
16	21 51 37	20	4000	2140A	2240A	2230A	4200A	US MEX	
16	21 51 37	40	4000	6654A	1230A	2230A	2142A	PE	
16	21 51 37	50	1000	2143G	2142A	2141G	2240F 1113G		
16	21 51 37	60	4000	2141A					
16	21 51 37	80	4000	2142A	2230A	4200A		ASTR PE	
17	22 15 10	00	3000					PE	
18	22 38 45	00	3001					PE	
19	23 02 20	00	4001					PE	

10 SEP 67				SUBSATELLITE PT 150.58W 00.02S				TOTAL PICS 7	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	01 14 31	10	4001	6656D	1220D	6657D	1220D 2143C 2230D		
01	01 14 31	40	4000	6654A	1230A	2230A	2142A		
01	01 14 31	50	1001	1113G	2143D	2142I	2141D 2230C		
01	01 14 31	80	4000	2142A	2230A	4200A		ASTR	
02	04 03 00	00	4001						
03	21 28 27	00	3000						
04	21 52 05	10	3000	6051I	1210I	6656D	1210D 6657D 1230D	US MEX	
04	21 52 05	20	4000	2240A	2230A	2140A	4200A 4550A	US MEX CUBA	
04	21 52 05	40	4000	6656A	1210A	2230A	2142A		
04	21 52 05	50	1000	1113G	2145G	2144G	2142A 2141G		
04	21 52 05	60	4000	2141A	2240A				
04	21 52 05	80	4000	2142A	2230A	4200A		ASTR	
05	22 15 38	00	3000						
06	22 47 00	00	3001						
07	23 10 50	00	3001						



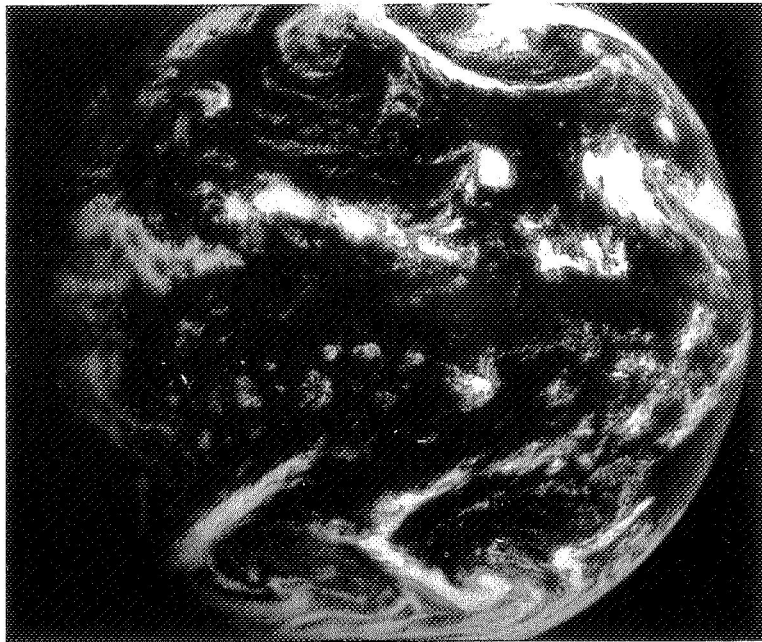
ATS-I 9 SEP 67 21 51 37 Z SEQ 16



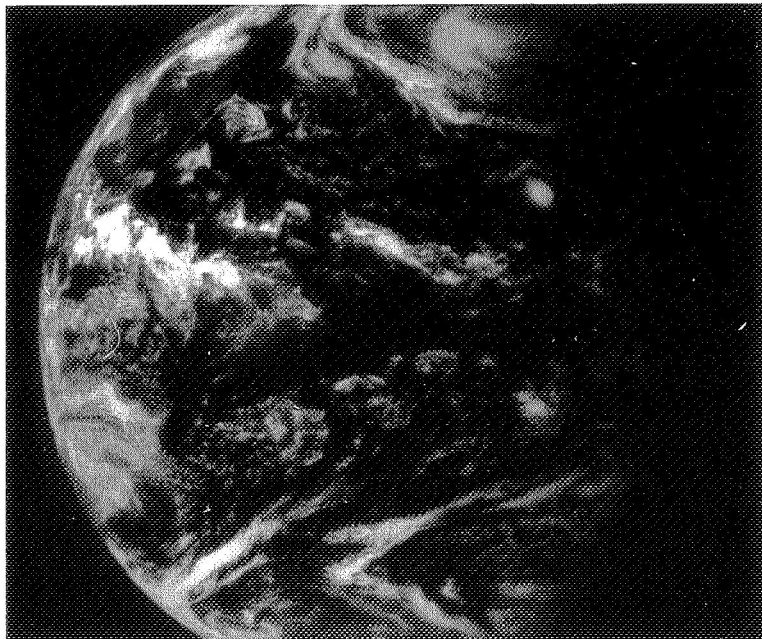
ATS-I 10 SEP 67 21 52 05 Z SEQ 4

11 SEP 67 SUBSATELLITE PT 150.61W 00.01S										TOTAL PICS 5
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS						REMARKS
01	01 46 52	10	4001	6657D	1211D	6656D	1210D	2142C	2142F	
01	01 46 52	40	4000	6656A	1210A	2142A	2230A			
01	01 46 52	50	1001	1113D	2142I	4610C				
01	01 46 52	80	4000	2142A	2230A	4610A	4200A			ASTR
01	01 46 52	90	5001	5000A						
02	04 31 16	00	4001							PE
03	18 18 26	10	3002	6051H	1221H	6657D	1221D	2145B	2230G	US MEX
03	18 18 26	20	4000	2230A	2140A	4200A	4550A			US MEX CUBA
03	18 18 26	50	1002	1113G	2145G	2142A	2141G	2144G		
03	18 18 26	60	4000	2141A						
04	23 01 43	10	3000	6051H	1220H	6657D	1220D	2143B	2230G	MEX US
04	23 01 43	20	4001	2230A	4200A					MEX
04	23 01 43	40	4000	6656A	1220A	2230A	2142A			
04	23 01 43	50	1000	1113G	2143G	2142A	2141G			
04	23 01 43	60	5001	5000A						
04	23 01 43	80	4000	2142A	2230A	1113A	4200A			ASTR
05	23 25 17	00	4001							

12 SEP 67 SUBSATELLITE PT 150.63W 00.01S										TOTAL PICS 2
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS						REMARKS
01	01 13 28	10	4001	6657D	1221D	2230D	2240G	2142C	4550A	HAW
01	01 13 28	40	4000	6656A	1210A	2230A	2140A			
01	01 13 28	50	4001	1113D	2145D	2144D	2142I	2142G	2240F	
01	01 13 28	80	4000	2142A	2240A	4200A				ASTR
02	18 48 22	10	3002	6657D	1221D	6051H	1113F	2142J	2230E	US MEX
02	18 48 22	20	4000	2230A	2140A	4200A	4550A			US MEX CUBA
02	18 48 22	50	1002	1113D	1125E	2144D	2142A			
02	18 48 22	60	4000	2140A						
02	18 48 22	80	5002	2142A						



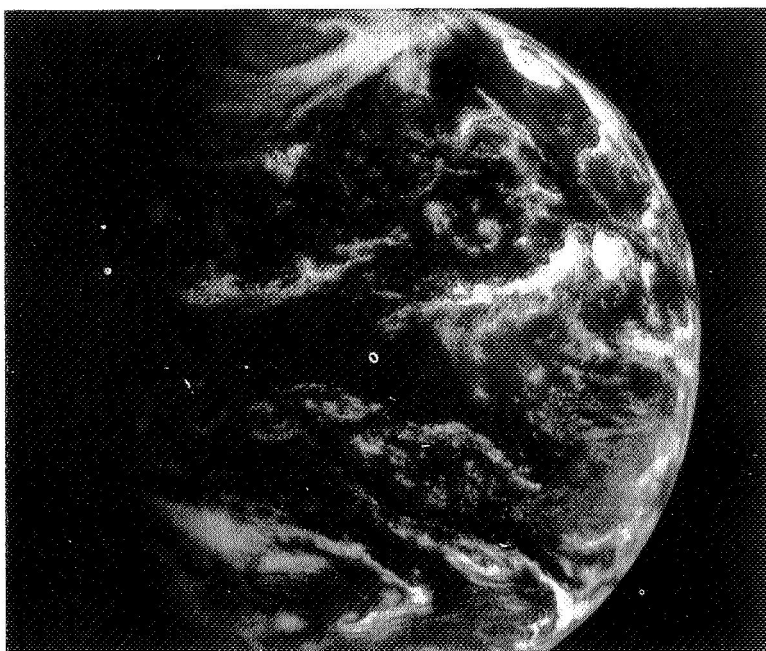
ATS-I 11 SEP 67 23 01 43 Z SEQ 4



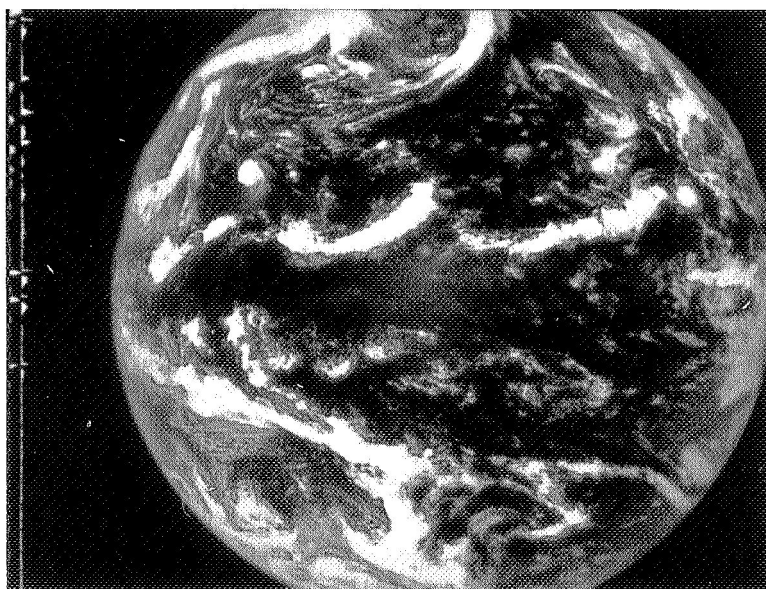
ATS-I 12 SEP 67 18 48 22 Z SEQ 2

				13 SEP 67	SUBSATELLITE PT 150.66W 00.01S				TOTAL PICS 2	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS						REMARKS
01	04 14 38	00	7000							
02	18 08 52	10	3002	2230E	2240G	1114H	1113F	2145B	4200H	US MEX
02	18 08 52	20	4000	2230A	2140A	2240A	4200A	4550A		US MEX CUBA
02	18 08 52	50	1002	1125D	2140A	2240B				
02	18 08 52	60	4000	2141A	2240A					

				14 SEP 67	SUBSATELLITE PT 150.69W 00.01S				TOTAL PICS 6	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS						REMARKS
01	04 04 11	00	4001							
02	21 23 08	00	3000							PE
03	21 46 43	10	3000	6052E	1210E	6053E	1210E	6657D	1220D	US MEX
03	21 46 43	20	4000	2140A	2240A	4200A	4550A	6341A	1210A	US MEX CUBA
03	21 46 43	40	4000	6659A	1210A	2240A	2230A	2142A		
03	21 46 43	50	1000	1113D	2142A	1125E	2240A	3100I		
03	21 46 43	60	4000	2142A	2240A					
03	21 46 43	80	4000	2142A	2240A	4200A				ASTR
04	22 27 56	00	3000							
05	22 51 34	00	7000							
06	23 15 09	00	4001							



ATS-I 13 SEP 67 18 08 52 Z SEQ 2



ATS-I 14 SEP 67 21 46 43 Z SEQ 3

15 SEP 67 SUBSATELLITE PT 150.71W 00.015

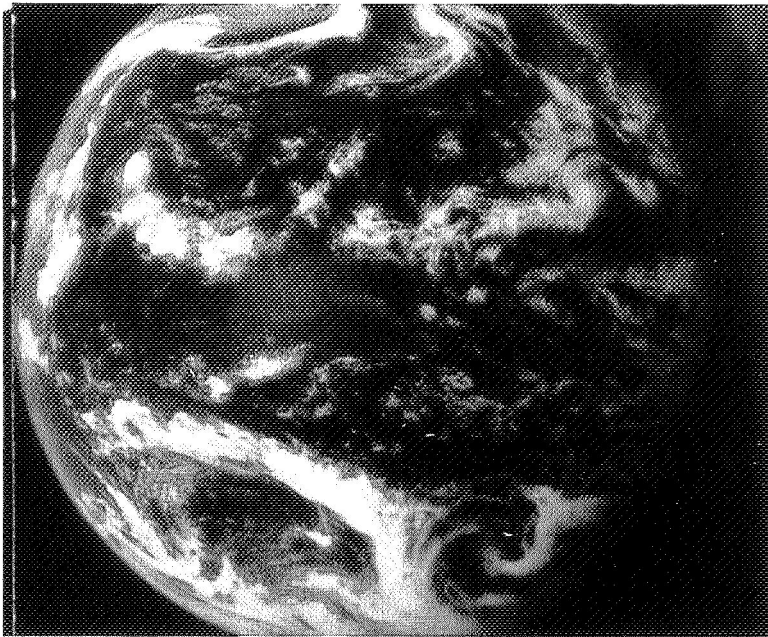
TOTAL PICS 1

SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS	REMARKS
01	23 26 50	10	3001	6657D 1220D 6052E 1211E 6053E 1220E	US MEX
01	23 26 50	20	4001	2240A 2140A	
01	23 26 50	40	4000	1113A 2142A 2230A 2240A	
01	23 26 50	50	1001	1125G 2145D 2144D 2142A 2141G	
01	23 26 50	60	5001	5000A	
01	23 26 50	80	4000	2142A 2240A 1113A 4200A	ASTR

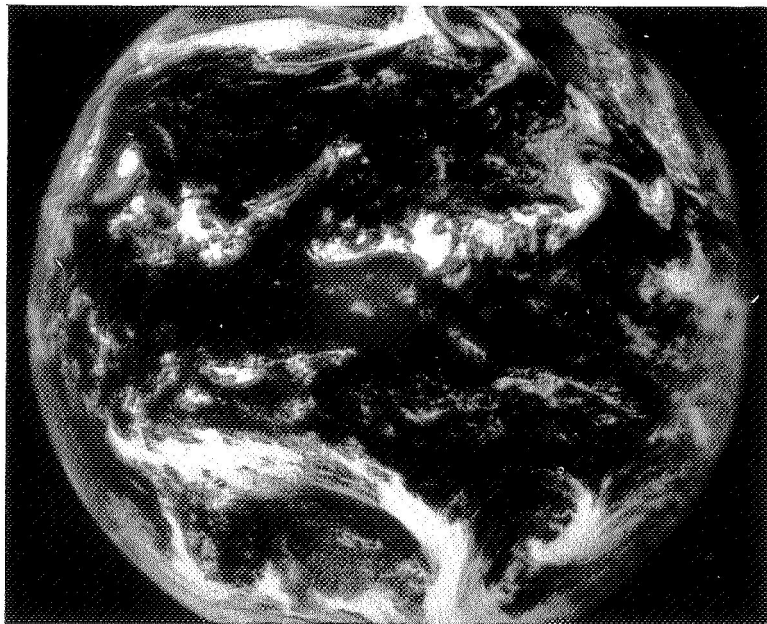
16 SEP 67 SUBSATELLITE PT 150.74W 00.015

TOTAL PICS 26

SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS	REMARKS
01	03 49 50	00	4001		PE PIC SKEWED
02	13 16 34	00	5002		
03	13 40 09	00	5002		PE
04	14 08 43	00	5002		PE
05	14 27 18	00	4002		PE
06	14 50 54	00	4002		PE
07	16 24 53	05	5002	5000A	
07	16 24 53	10	3002	6052E 1210E 6053E 1210E 1113B 2142B	US MEX
07	16 24 53	20	4000	6341A 1230A 2240A 2140A 4200A	US MEX PE
07	16 24 53	50	1002	1113E 2142A 2240B 2141H	
07	16 24 53	60	4000	2240A 2141A	PE
08	16 48 28	00	3002		PE
09	17 12 06	00	3002		PE
10	17 35 41	00	3002		PE
11	17 59 16	00	3002		PE
12	18 22 54	00	3002		PE
13	18 46 31	00	3002		PE
14	19 10 08	10	3002	6052E 1210E 6053E 1210E 2230G 1113F	US MEX
14	19 10 08	20	4000	6341A 1230A 2142A 4200A	US MEX PE
14	19 10 08	50	1000	1113E 2142A 2141E 2240B 4610B	
14	19 10 08	60	4000	2141A 2240A	PE
14	19 10 08	80	5002	2142A	
15	19 33 40	00	3002		PE
16	19 57 16	00	3002		PE
17	20 20 54	00	3002		PE
18	20 44 28	00	3002		PE
19	21 08 03	00	3000		PE
20	21 31 38	00	3000		PE
21	21 55 16	00	3000		PE
22	22 18 51	10	3000	6052E 1210E 6053E 1210E 6657D 1220D	US MEX
22	22 18 51	20	4000	6341A 1230A 2140A 4200A	US MEX PE
22	22 18 51	40	4000	1114A 2230A 2140A	PE
22	22 18 51	50	1000	1113G 2143G 2142A 2141G 2240F	
22	22 18 51	60	4000	2240A 2141A	PE
22	22 18 51	80	4000	2142A 2240A 4200A 4550A	ASTR NZ PE
23	22 42 30	00	3001		PE
24	23 06 02	09	3001		PE
25	23 39 38	00	3001		PE
26	23 53 30	00	3001		PE



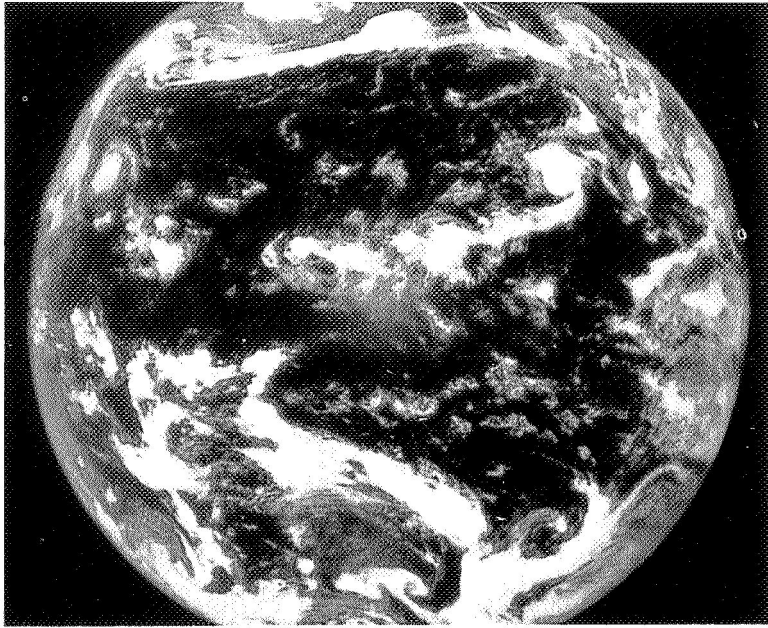
ATS-I 15 SEP 67 23 26 50 Z SEQ 1



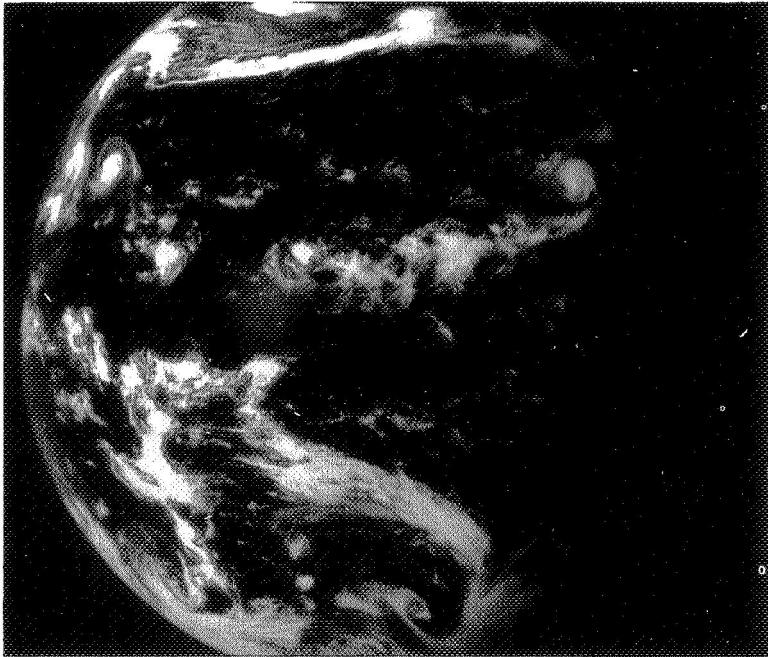
ATS-I 16 SEP 67 22 18 51 Z SEQ 22

17 SEP 67				SUBSATELLITE PT 150.76W 00.01S	TOTAL PICS 49
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
01	00 16 51	10	1001	6052E 1210E 6053E 1210E 6657D 1220D	US MEX HAW
01	00 16 51	40	4000	2240A 2230A 2140A 1113A	PE
01	00 16 51	50	1001	1113G 1125E 2142A 2240F 4610C	
01	00 16 51	80	4000	2142A 2230A 4200A 4550A	ASTR NWGN NZ
02	00 40 30	00	1001		PE
03	01 04 00	00	1001		PE
04	01 27 40	00	1001		PE
05	01 51 15	00	1001		PE
06	02 14 55	00	1001		PE
07	02 36 20	00	1001		PE
08	03 02 07	00	1001		PE
09	03 25 40	00	1001		PE
10	03 49 14	00	4001		PE
11	04 12 53	00	4001		PE
12	04 36 30	00	4001		PE
13	05 00 07	00	4001		PE
14	05 23 44	00	4001		PE
15	05 47 18	00	5001		PE PR
16	06 10 57	00	5001		PE
17	08 49 41	00	7000		
18	09 35 19	00	7000		
19	09 57 55	00	7000		
20	10 17 59	00	7000		
21	13 07 58	00	5002		PE
22	13 30 32	00	5002		PE
23	13 54 10	00	5002		PE
24	14 17 45	00	5002		PE
25	14 41 20	00	5002		PE
26	15 04 54	00	4002		PE
27	15 28 34	00	4002		PE
28	15 52 07	00	4002		PE
29	16 15 42	10	4002	6052E 1210E 6053E 1230E 2230E 2142B	US MEX
29	16 15 42	20	4000	6341A 1230A 2140A 2230A 4200A	US MEX PE
29	16 15 42	50	4002	2142A 2141E 2240B 2230B	
29	16 15 42	60	4002	2141A 2141A 2240A	PE
30	16 39 21	00	4002		PE
31	17 02 56	00	4002		PE
32	17 26 30	00	3002		PE
33	17 50 09	00	3002		PE
34	18 13 46	00	3002		PE
35	18 37 21	00	3002		PE
36	19 00 52	10	3002	6052E 1210E 6053E 1230E 2240G 2230G	US MEX HAW PR
36	19 00 52	20	4000	6341A 1230A 2230A 2240A 2140A	PR PE
36	19 00 52	50	1002	1113D 2145E 2144E 2142A 2141H	PR
36	19 00 52	60	4000	2240A 2141A	PR PE
36	19 00 52	80	4002	2142A 2240A	
37	19 24 31	00	3002		PE
38	19 48 05	00	3002		PE
39	20 11 40	00	3002		PE
40	20 35 19	00	3002		PE
41	20 58 55	00	7000		
42	21 22 31	00	3002		PE
43	21 29 21	00	3000		PE
44	21 52 58	10	3000	6052E 1210E 6053E 1230E 6657D 1230D	US MEX HAW
44	21 52 58	20	4000	6341A 1230A 2240A 2140A 4200A	US MEX PE
44	21 52 58	40	4000	6657A 1230A 2230A 2142A	PE
44	21 52 58	50	1000	1113D 2145E 2144E 2142A 2141H 4610C	
44	21 52 58	60	4000	2141A 2240A	
44	21 52 58	80	4000	2142A 1113A 2240A 2230A 4200A 4550A	ASTR NWGN
45	22 16 30	00	3000		PE
46	22 40 10	00	3001		PE
47	23 07 22	00	3001		PE
48	23 30 52	00	3001		PE
49	23 54 34	00	4001		PE

18 SEP 67				SUBSATELLITE PT 150.78W 00.01S	TOTAL PICS 30
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
01	00 18 05	10	1001	6052E 1210E 6053E 1220E 2230G 2143F	US MEX HAW
01	00 18 05	40	4000	6657A 1220A 6660A 1220A 1113A 2140A	PE
01	00 18 05	50	1001	1125D 2143E 2142A 2141E 2230C 4610C	
01	00 18 05	80	4000	1113A 2142A 2230A 4200A 4550A	ASTR NWGN
02	00 41 40	00	4001		PE
03	01 05 20	00	4001		PE
04	01 28 52	00	4001		PE PR
05	01 52 30	00	4001		PE
06	02 16 08	00	4001		PE
07	02 39 43	00	4001		PE
08	03 03 22	00	4001		PE
09	03 26 55	00	4001		PE
10	03 50 34	00	4001		PE
11	04 14 08	00	4001		PE
12	04 37 47	00	4001		PE
13	05 01 20	00	4001		PE
14	05 24 59	00	4001		PE
15	05 48 33	00	5001		PE
16	16 17 30	00	8000	8000A	
17	16 27 55	00	8000	8000A	3 MOON PICS
18	16 55 33	00	8000	8000A	2 MOON PICS
19	17 21 36	00	8000	8000A	4 MOON PICS
20	17 47 17	00	8000	8000A	4 MOON PICS
21	18 11 39	00	8000	8000A	4 MOON PICS
22	18 38 20	00	8000	8000A	3 MOON PICS
23	19 07 50	00	8000	8000A	4 MOON PICS
24	19 33 07	00	8000	8000A	4 MOON PICS
25	20 00 07	00	8000	8000A	2 MOON PICS
26	20 24 02	00	8000	8000A	EARTH 19 MOONS
27	21 18 48	00	8000	8000A	EARTH 11 MOONS
28	22 56 05	00	8000	8000A	EARTH 3 MOONS
29	23 17 30	00	8000	8000A	2 MOON PICS
30	23 41 15	00	8000	8000A	3 MOON PICS



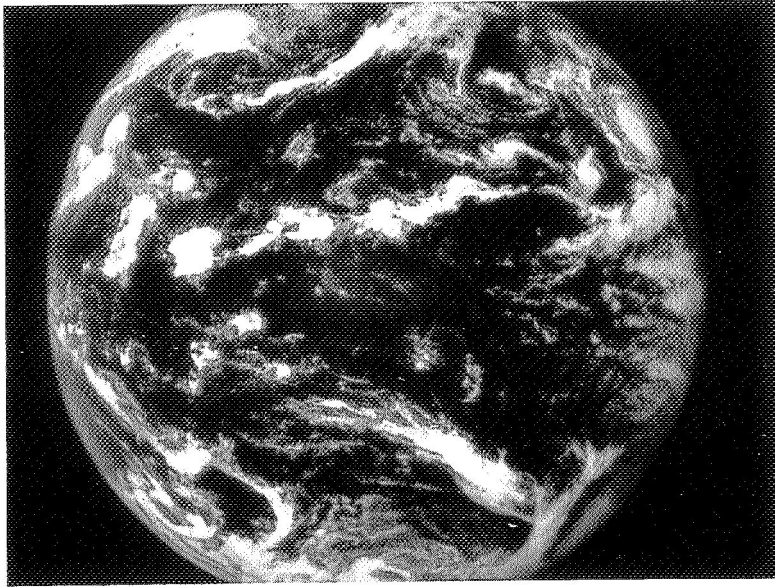
ATS-I 17 SEP 67 21 52 58 Z SEQ 44



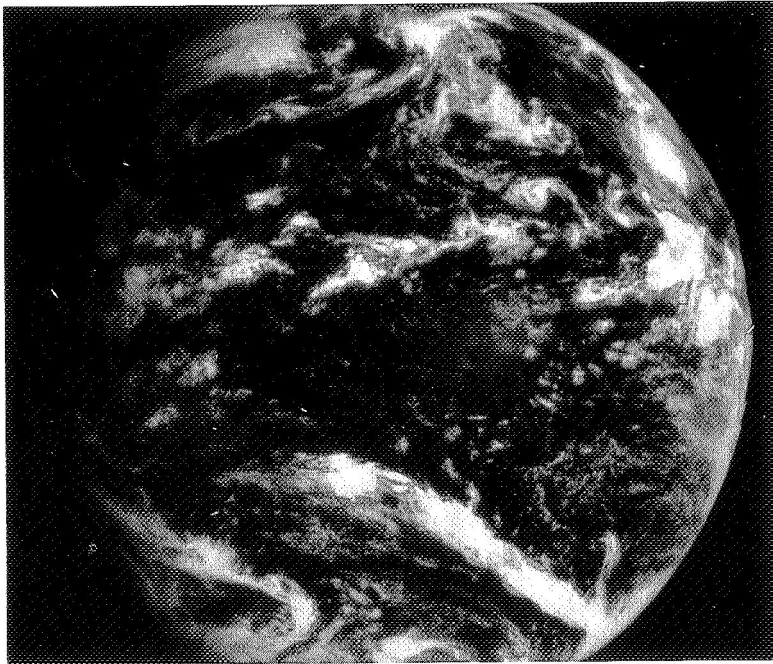
ATS-I 18 SEP 67 00 18 05 Z SEQ 1

19 SEP 67				SUBSATELLITE PT 150.80W 00.01S				TOTAL PICS 9	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	00 05 10	00	8000	8000A				2 MOON PICS	
02	00 21 15	00	8000	8000A				2 MOON PICS	
03	00 43 40	00	8000	8000A				4 MOON PICS	
04	01 05 45	00	8000	8000A				2 MOON PICS	
05	01 25 15	00	7000						
06	01 37 03	00	8000	8000A				2 MOON PICS	
07	01 49 59	00	8000	8000A					
08	18 19 00	10	3002	6052E	1210E	6053E	1210E 2143B 2240G	US MEX	
08	18 19 00	20	4000	6341A	1230A	2240A 2230A 2140A		PE	
08	18 19 00	50	1002	2145E	2144E	2142M 2141H 3100I			
08	18 19 00	60	4000	2141A	1113A	2240A			
09	22 17 18	10	3000	6052E	1210E	6053E 1210E 2143B 2230G		US MEX HAW	
09	22 17 18	20	4000	6341A	1231A				
09	22 17 18	40	4000	6637A	1220A	6660A 1220A 2140A		PE	
09	22 17 18	50	1000	2145E	2144E	2142A 2141H 2230C 1125G			
09	22 17 18	60	4000	2240A	2141A	1113A		PE	
09	22 17 18	80	4000	2142A	1113A	2230A 4200A 4550A		ASTR NZ	

20 SEP 67				SUBSATELLITE PT 150.82W 00.01S				TOTAL PICS 6	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	04 24 14	00	4001					PE	
02	08 51 00	00	7000						
03	11 09 20	00	7000						
04	11 28 06	00	8000	8000A				PE 2 MOONS	
05	11 46 00	00	8000	8000A				2 MOON PICS	
06	19 21 14	10	3002	6052E	1210E	6053E 1211E 2230G 2143F		US MEX HAW	
06	19 21 14	20	4000	6143A	1230A	2230A 2240A 2140A 4200A		MEX CUBA	
06	19 21 14	50	1002	2143E	2142A	2141H 1113D			
06	19 21 14	60	4000	2145A	1113A	2240A			
06	19 21 14	80	4002	2142A					



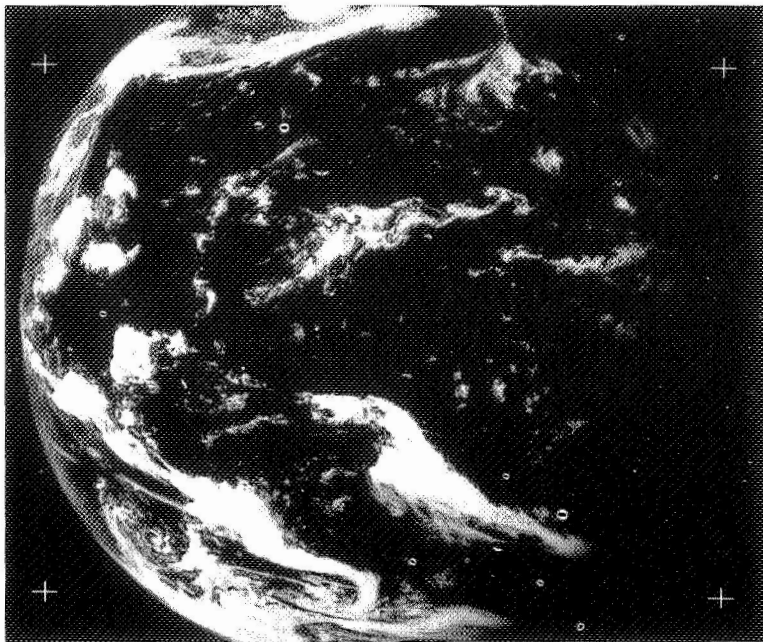
ATS-I 19 SEP 67 22 17 18 Z SEQ 9



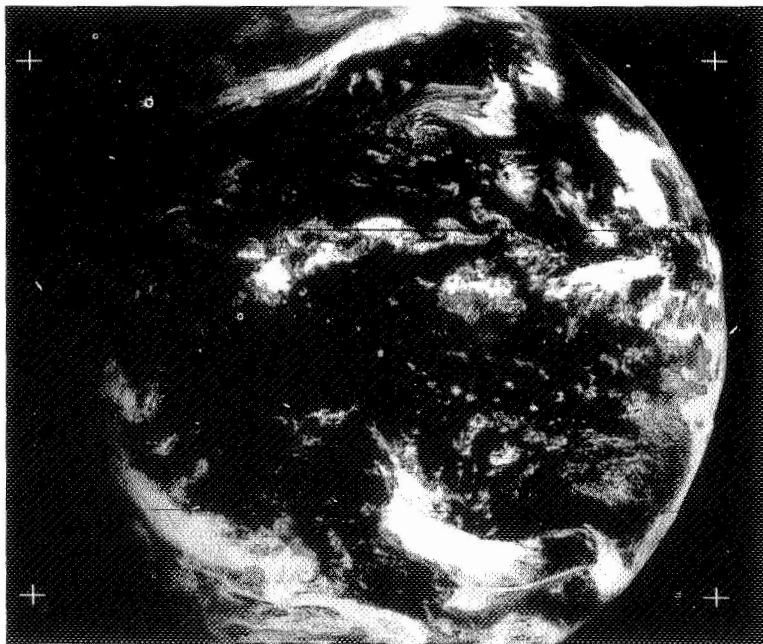
ATS-I 20 SEP 67 19 21 14 Z SEQ 6

21 SEP 67				SUBSATELLITE PT 150.84W 00.01S				TOTAL PICS 4	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 51 12	00	4001					PE	
02	18 51 22	10	3002	6052E	6053E	1113C	2145C 6143H 2240G	US MEX HAW	
02	18 51 22	20	4000	6143A	2240A	2140A	4200A 4550A	US MEX CUBA	
02	18 51 22	50	1002	1113D	2142A	1114E			
02	18 51 22	60	4000	2141A	2144A	2142A		PE	
02	18 51 22	80	5002	2142A	2240A				
03	22 49 47	00	7000						
04	23 27 17	10	3001	6052E	6053E	6143H	2143F 2240G 2230D	US MEX HAW	
04	23 27 17	20	4001	6143A					
04	23 27 17	40	4000	1113A	2142A	6660A	2230A	PE	
04	23 27 17	50	4001	1113D	2143C	2145D			
04	23 27 17	60	5001	5000A					
04	23 27 17	80	4000	2142A	1113A	2230A	4200A	ASTR	

22 SEP 67				SUBSATELLITE PT 150.85W 00.01N				TOTAL PICS 9	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 24 44	00	4001					PE	
02	08 43 03	00	7000						
03	09 01 47	00	7000						
04	09 25 15	00	7000						
05	09 48 44	00	7000						
06	10 12 19	00	7000						
07	10 35 54	00	7000						
08	19 07 35	10	3002	2145B	2240G	2230G	6341H 4610E 4550D	US MEX HAW PE	
08	19 07 35	20	4000	6341A	2240A			PE	
08	19 07 35	50	1000	2143G					
08	19 07 35	60	4000	2143A	2230A			PE	
08	19 07 35	80	4002	2142A	2230A				
09	22 11 45	10	4000	2143F	1113C	2240G	2230G 6341H 4550D	NA HAW PC	
09	22 11 45	20	4000	6341A	2240A	4200A		C AMERICA PC	
09	22 11 45	40	4000	6657A	6660A	2140A	2230A		
09	22 11 45	50	4000	2143A	3100D			PC	
09	22 11 45	60	4000	2141A	2240A			PC	
09	22 11 45	80	4000	2142A	1110A	2230A	4200A	ASTR PC	



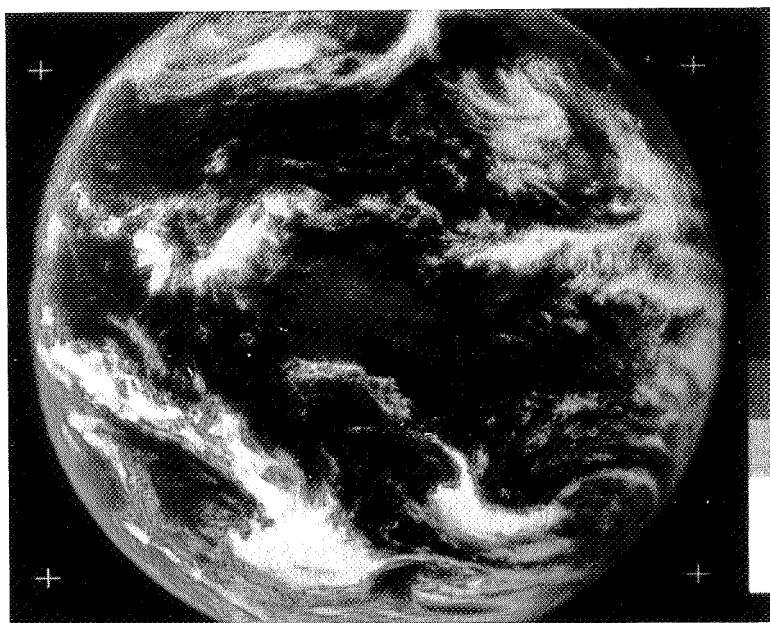
ATS-I 21 SEP 67 23 27 17 Z SEQ 4



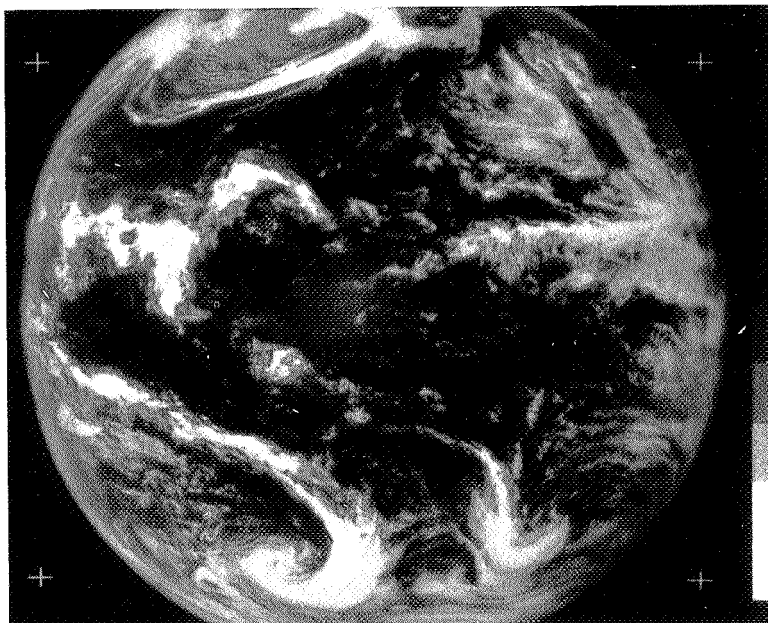
ATS-I 22 SEP 67 19 07 35 Z SEQ 8

23 SEP 67				SUBSATELLITE PT 150.88W 00.01N				TOTAL PICS 5	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 25 33	10	3002	1113F	2143B	2230G	2240G 4200H 4610E	US MEX HAW	
01	18 25 33	20	4000	2230A	2240A	2142A	6143A		
01	18 25 33	50	1002	2143A	1113A	4610B			
01	18 25 33	60	4000	2141A	2240A			PE	
01	18 25 33	80	5002	2142A					
02	21 23 37	00	3000					PE	
03	21 47 11	00	3500					PE	
04	22 08 42	10	3000	1114C	2143C	2142F	2230G 2240G 4500D	US MEX HAW	
04	22 08 42	20	4000	2240A	2142A	1200A		PE	
04	22 08 42	40	4000	6660A	2142A	2230A			
04	22 08 42	50	1000	2143A	2142A	1114G			
04	22 08 42	60	4000	2141A	2230A			PE	
04	22 08 42	80	4000	2142A	3150A	4200A		ASTR PE	
05	22 32 13	00	3001					PE	

24 SEP 67				SUBSATELLITE PT 150.90W 00.01N				TOTAL PICS 8	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	04 20 48	00	4001					PE	
02	18 19 24	10	3002	1113C	2145F	2240G 4200H 4610E		US MEX	
02	18 19 24	20	4000	2230A	2240A	2142A		PE	
02	18 19 24	50	1002	1113G	2143G	4610B			
02	18 19 24	60	4000	2240A	2141A			PE	
02	18 19 24	80	5002	5000A					
03	21 03 34	00	3000					PE	
04	21 27 12	00	3000					PE	
05	21 50 47	00	3000					PE	
06	22 14 21	10	3000	1113C	2145B	2230G 2240G 4550D 4200H		US MEX HAW	
06	22 14 21	20	4000	2230A	2240A			PE	
06	22 14 21	40	4000	1113A	2142A	2230A		PE	
06	22 14 21	50	1000	1113G	2145D	2143B 3100A			
06	22 14 21	60	4000	2141A	2240A			PE	
06	22 14 21	80	4000	2142A	2230A	4200A		ASTR PE	
07	22 38 00	00	3001					PE	
08	23 01 35	00	3001					PE	



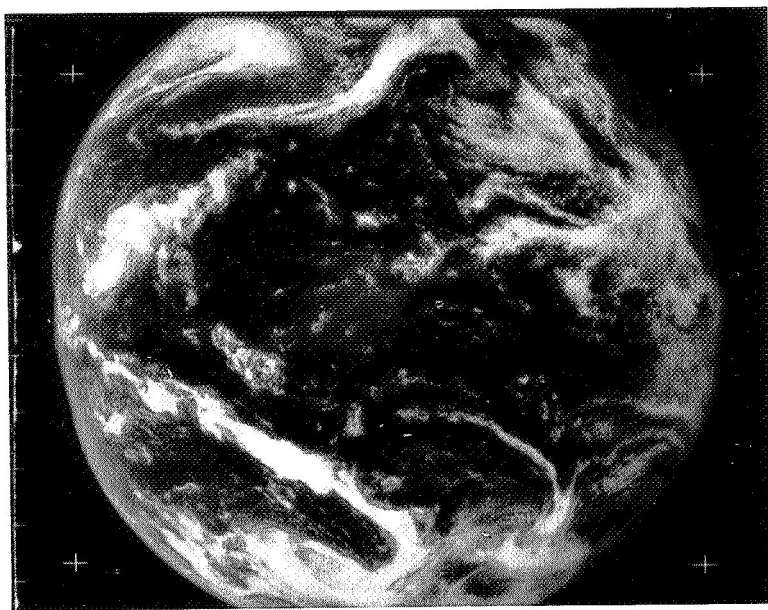
ATS-I 23 SEP 67 22 08 42 Z SEQ 4



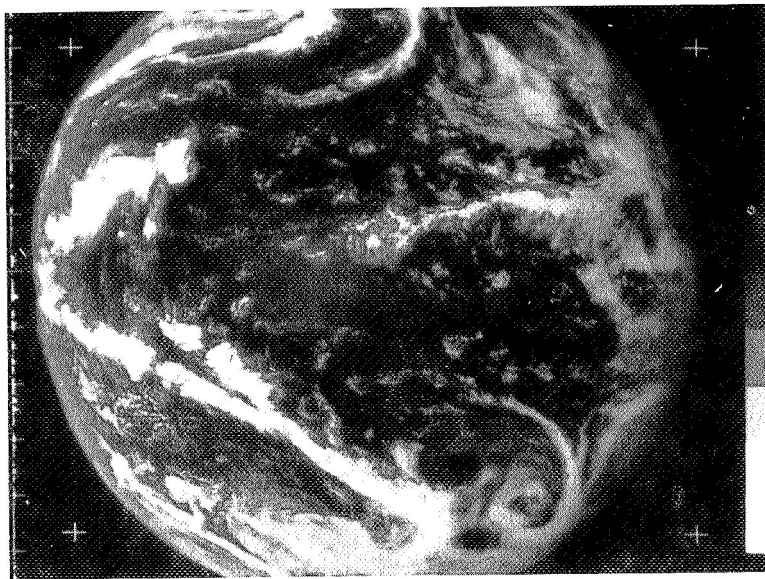
ATS-I 24 SEP 67 22 14 21 Z SEQ 6

25 SEP 67				SUBSATELLITE PT 150.91W 00.01N				TOTAL PICS 8	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 42 30	00	4001					PE	
02	18 13 38	10	3002	1113F	2145B	2230E	2240G 4200H 4610E	PR US MEX	
02	18 13 38	20	4000	2240A	2230A			PE	
02	18 13 38	50	1002	1113D	2145D	2143E	4610B	PR	
02	18 13 38	60	4000	2141A	2240A			PR PE	
02	18 13 38	80	5002	5000A				PR	
03	21 11 21	00	3000					PE	
04	21 34 56	00	3000					PE	
05	21 58 33	00	3000					PE	
06	22 22 12	10	3000	2143B	1113C	2230G	2240G 4550D 4200H	US MEX HAW	
06	22 22 12	20	4000	2230A	2240A				
06	22 22 12	40	4000	2142A	2230A	1100A		PE	
06	22 22 12	50	1000	2145G	1113D	1114E	2230C 4610C		
06	22 22 12	60	4000	2141A	2230A			PE	
06	22 22 12	80	4000	2142A	1100A	2230A	4200A	ASTR PE	
07	22 45 43	00	3001					PE	
08	23 09 19	00	3001					PE	

26 SEP 67				SUBSATELLITE PT 150.93W 00.01N				TOTAL PICS 6	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	04 15 59	00	4001					PE PR	
02	18 56 40	10	3002	2143B	1114C	2240G	2230E 4200H 2142B	US MEX	
02	18 56 40	20	4000	2240A	2230A	2142A		PE	
02	18 56 40	50	1000	1114E	1113D	2145G	2240B 3100H		
02	18 56 40	60	4000	2141A				PE	
02	18 56 40	80	4002	2142A					
03	21 28 42	00	3000					PE	
04	22 14 08	00	4000					PE	
05	22 37 33	10	3000	2143F	2230D	2240G	1113C 4610D 4550D	US MEX HAW	
05	22 37 33	20	4000	2230A	2240A				
05	22 37 33	40	4000	2230A	2240A	2140A		PE	
05	22 37 33	50	1000	1113G	2145G	2230C	3100H		
05	22 37 33	60	4000	2141A	2240A				
05	22 37 33	80	4000	2142A	2230A	4200A		ASTR PE	
06	23 01 04	00	3001					PE	



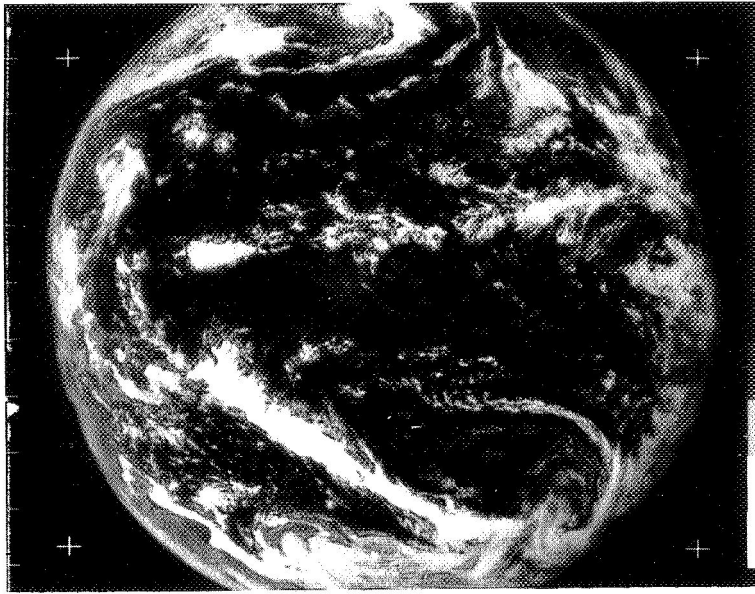
ATS-I 25 SEP 67 22 22 12 Z SEQ 6



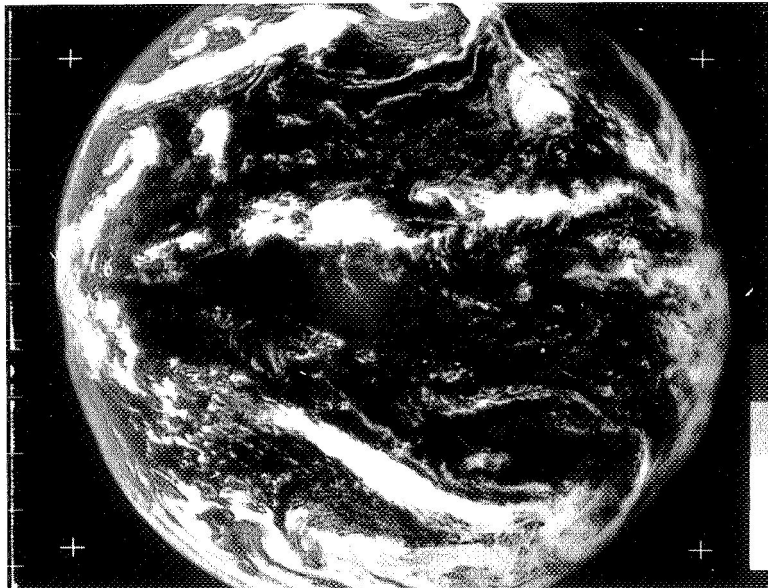
ATS-I 26 SEP 67 22 37 33 Z SEQ 5

27 SEP 67				SUBSATELLITE PT 150.95W 00.01S				TOTAL PICS 6	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	04 06 04	00	4001					PE	
02	18 16 31	00	4502					PE	
03	18 50 45	10	3002	1113C	2142F	2240G	2230E 4200H 4610E	US MEX	
03	18 50 45	20	4000	2230A	2240A	2140A			
03	18 50 45	50	1000	1114E	2143G	2240B	4610B		
03	18 50 45	60	4000	2141A				PE	
03	18 50 45	80	5002	2142A					
04	21 27 57	00	3000					PE	
05	21 51 33	00	3000					PE PR	
06	22 15 11	10	3000	1113F	2143C	2240G	2230G 1200D 4550D	US MEX HAW	
06	22 15 11	20	4000	2240A	2230A	2140A			
06	22 15 11	40	4000	1200A	2230A	2142A			
06	22 15 11	50	1000	1114E	2143E	2144E			
06	22 15 11	60	4000	2141A	2240A			PE	
06	22 15 11	80	4000	2142A	2230A	4200A		ASTR PE	

28 SEP 67				SUBSATELLITE PT 150.97W 00.01S				TOTAL PICS 6	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 54 56	00	4001					PE	
02	18 25 43	10	3002	1113F	2145B	2240G	2230E		
02	18 25 43	20	4000	2230A	2240A	2140A			
02	18 25 43	50	1000	2143E	3100F	1113E	2145E 4610B		
02	18 25 43	60	4000	2141A	2240A				
02	18 25 43	80	5000	5000A					
03	21 45 50	00	3000					PE	
04	22 14 37	10	3000	6680D	1113F	2143C	2230D 2240G 4550D	US MEX HAW	
04	22 14 37	20	4000	2230A	2240A	2140A		PE	
04	22 14 37	40	4000	6680A	2230A	2142A		PE	
04	22 14 37	50	1000	2143G	1125D	3100F	2144E		
04	22 14 37	60	4000	2145A				PE	
04	22 14 37	80	4000	2142A	2230A	4200A		ASTR PE	
05	22 38 12	00	3001					PE	
06	23 01 49	00	3001					PE	



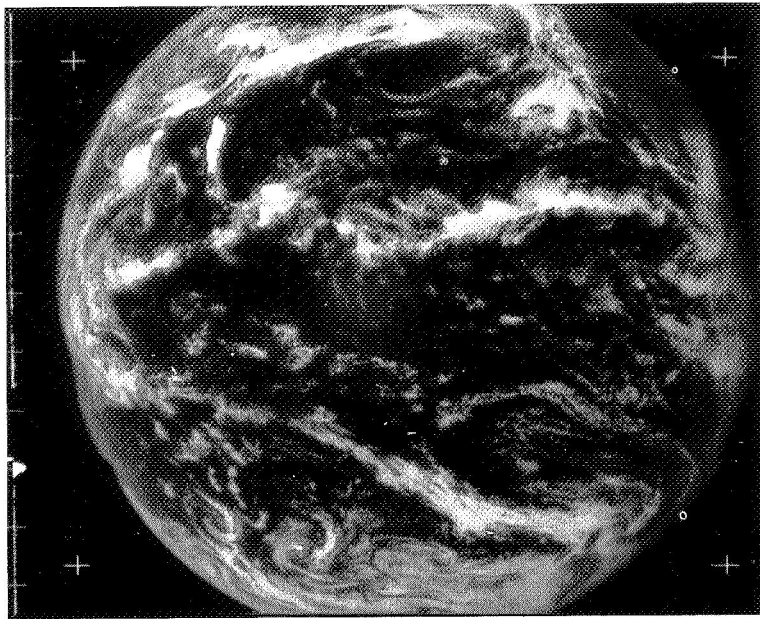
ATS-I 27 SEP 67 22 15 11 Z SEQ 6



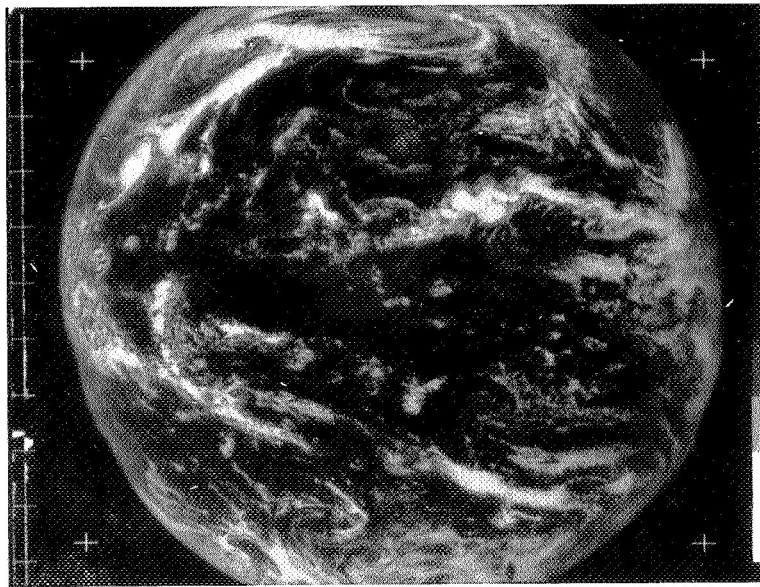
ATS-1 28 SEP 67 22 14 37 Z SEQ 4

29 SEP 67				SUBSATELLITE PT 150.99W 00.01S				TOTAL PICS 3		
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS						REMARKS
01	03 41 39	00	4001							PE
02	19 27 06	10	3002	2230G	2240G	2143F	1114C	4200H	4610D	US MEX HAW
02	19 27 06	20	4000	2240A	2230A	2140A				US MEX PE
02	19 27 06	50	1000	1125D	2143G	3100F				
02	19 27 06	60	4000	2141A	2230A	2240A				
02	19 27 06	80	5002	3100A						
03	22 30 16	10	3000	6680D	1114C	2143F	2240G	2230G	4200H	US MEX HAW
03	22 30 16	20	4000	2230A	2240A					
03	22 30 16	40	4000	6680D	2230A	2240A	2140A			PE
03	22 30 16	50	1000	1125D	2143G	3100F				
03	22 30 16	60	4000	2240A	2140A				PE	
03	22 30 16	80	4000	2142A	2230A	4200A				ASTR PE

30 SEP 67				SUBSATELLITE PT 151.01W 00.00S				TOTAL PICS 8		
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS						REMARKS
01	04 01 06	00	4001							PE
02	18 14 57	10	4002	2230G	2240G	1125B	3100I	4200H	4610E	US MEX
02	18 14 57	20	4000	2230A	2240A	2140A				PE
02	18 14 57	50	4002	1125D	2142A					
02	18 14 57	60	4000	2240A	1113A	2145A				PE
02	18 14 57	80	5002	5000A						
03	20 55 04	00	3000							PE
04	21 18 39	00	3000							PE
05	21 42 17	00	3000							PE
06	22 05 55	10	3000	6680D	2230G	2240G	1113C	2145C	4200H	US MEX HAW
06	22 05 55	20	4000	2240A	2140A					PE
06	22 05 55	40	4000	6680A	2140A	2240A				PE
06	22 05 55	50	1000	1125D	2142A					
06	22 05 55	60	4000	2240A	2142A				PE	
06	22 05 55	80	4000	2230A	2142A	4200A				ASTR PE
07	22 29 33	00	4001							PE
08	22 53 06	00	4001							PE



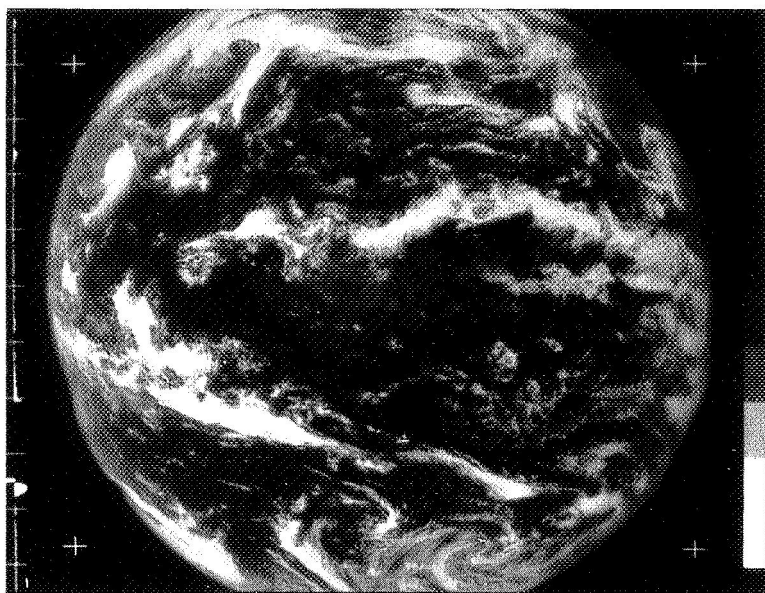
ATS-I 29 SEP 67 22 30 16 Z SEQ 3



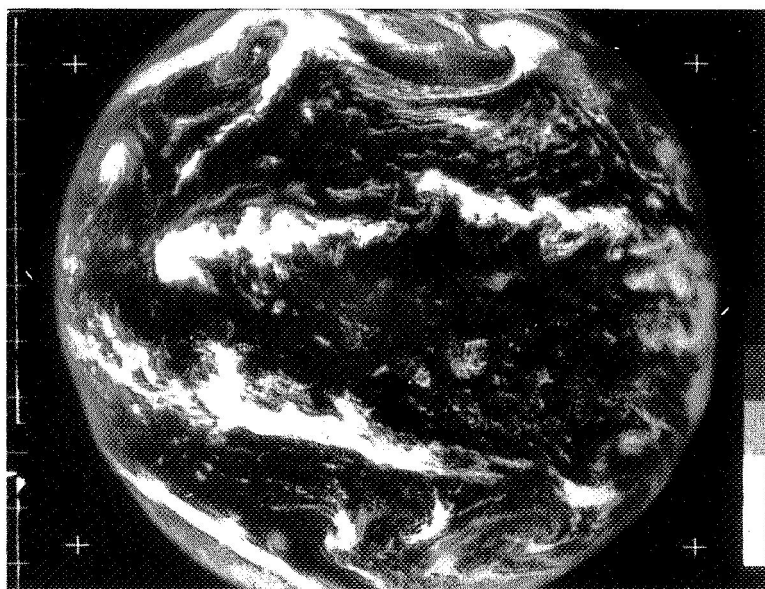
ATS-I 30 SEP 67 22 05 55 Z SEQ 6

1 OCT 67				SUBSATELLITE PT 151.03W 00.00S				TOTAL PICS 8	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	04 07 50	00	4001					PE	
02	18 17 23	10	4002	2240G	2230G	2143F	1114B 4200H 4610E	US MEX HAW	
02	18 17 23	20	4000	2240A	2230A	2140A		PE	
02	18 17 23	50	1002	1114G	2142A	1125D	4610B		
02	18 17 23	60	4000	2240A	2140A			PE	
02	18 17 23	80	5002	5000A					
03	20 55 47	00	3000					PE	
04	21 19 25	00	3000					PE	
05	21 43 00	00	1000					PE	
06	22 06 37	10	1000	2145C	1113C	1125F	6680D 2240G 2230G	US MEX HAW	
06	22 06 37	20	4000	2240A	2140A	4550A		CUBA	
06	22 06 37	40	4000	6680A	2230A	2140A			
06	22 06 37	50	1000	1114E	2142A	2141E	2230C		
06	22 06 37	60	4000	2240A	2140A			PE	
06	22 06 37	80	4000	2142A	2230A	1113A	4200A	ASTR PE	
07	22 30 13	00	4001					PE	
08	22 53 49	00	4001					PE	

2 OCT 67				SUBSATELLITE PT 151.05W 00.00S				TOTAL PICS 7	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 42 28	00	4001					PE	
02	18 14 42	10	1002	1113B	2145B	2143C	2230G 2240G 4200H	US MEX HAW	
02	18 14 42	20	4000	2230A	2240A				
02	18 14 42	50	1002	2142A	2141G	1114E			
02	18 14 42	60	4000	2230A	2240A			PE	
02	18 14 42	80	5002	5000A					
03	21 31 43	00	3000					PE	
04	21 55 18	10	3000	2145F	2230G	2240G	3100H 4550D 4200H	US MEX HAW	
04	21 55 18	20	4000	2240A	2230A				
04	21 55 18	40	4000	6680A	2142A	2240A			
04	21 55 18	50	1000	1113D	1114E	2145D	2142C 2230C 4610C		
04	21 55 18	60	4000	2240A	2141A			PE	
04	21 55 18	80	4000	2142A	2230A	4200A	4550A	ASTR NZ PE	
05	22 18 55	00	3000					PE	
06	22 42 29	00	3000					PE	
07	23 06 06	00	3001					PE	



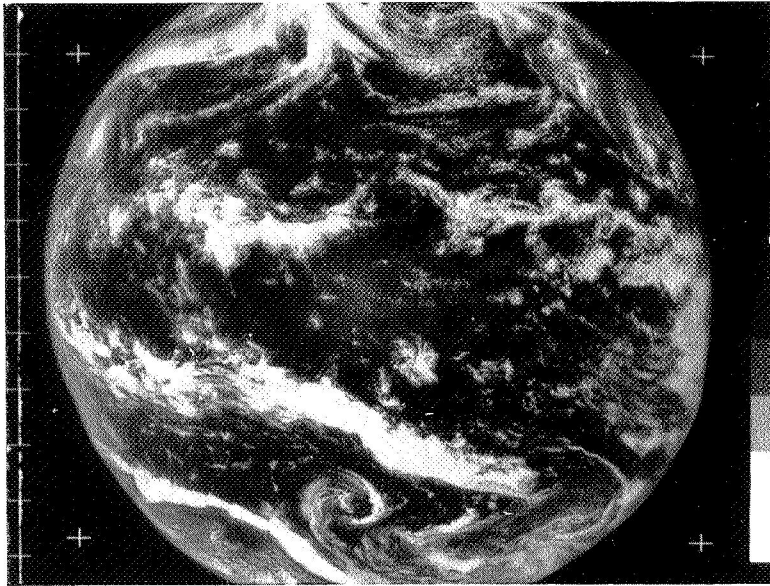
ATS-I 1 OCT 67 22 06 37 Z SEQ 6



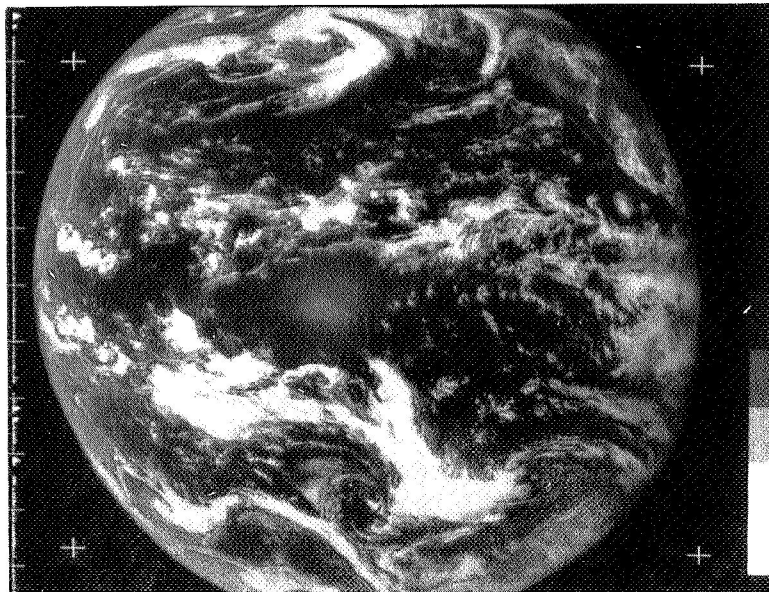
ATS-I 2 OCT 67 21 55 18 Z SEQ 4

SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
3 OCT 67 SUBSATELLITE PT 151.06W 00.00S TOTAL PICS 6					
01	04 32 08	00	4001		PE
02	21 25 45	00	3000		PE
03	21 49 22	10	3000	2240G 2230G 2143C 3100B 4550D 4200H	US MEX HAW
03	21 49 22	20	4000	2240A 4200A	MEX
03	21 49 22	40	4000	6680A 2142A 2240A	
03	21 49 22	50	1000	1114D 2143C 2142D 2141E 2230C	
03	21 49 22	60	4000	2141A 2240A	PE
03	21 49 22	80	4000	2142A 2230A 4550A 4200A	NZ NWGN ASTR
04	22 12 57	00	3000		PE
05	22 36 32	00	3001		PE
06	23 00 07	00	3001		PE

SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
4 OCT 67 SUBSATELLITE PT 151.08W 00.01S TOTAL PICS 7					
01	03 23 15	00	4501		PE
02	21 12 10	00	4000		PE
03	21 35 45	00	7000		
04	22 03 20	00	3000		PE
05	22 27 07	10	3000	1113C 2142A 2141F 2240G 2230G 4550D	US MEX HAW
05	22 27 07	20	4000	2240A 4200A	MEX
05	22 27 07	40	4000	6680A 2140A 2230A	
05	22 27 07	50	1000	2143A 1114I	
05	22 27 07	60	4000	2141A 2240A 1114A	
05	22 27 07	80	4000	2145A 2230A 4200A	ASTR
06	22 50 45	00	3001		PE
07	23 14 20	00	3001		PE



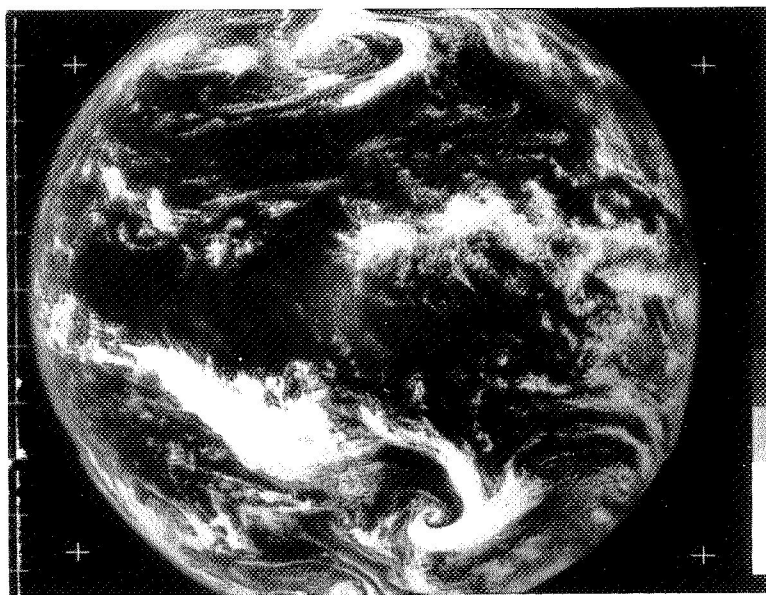
ATS-I 3 OCT 67 21 49 22 Z SEQ 3



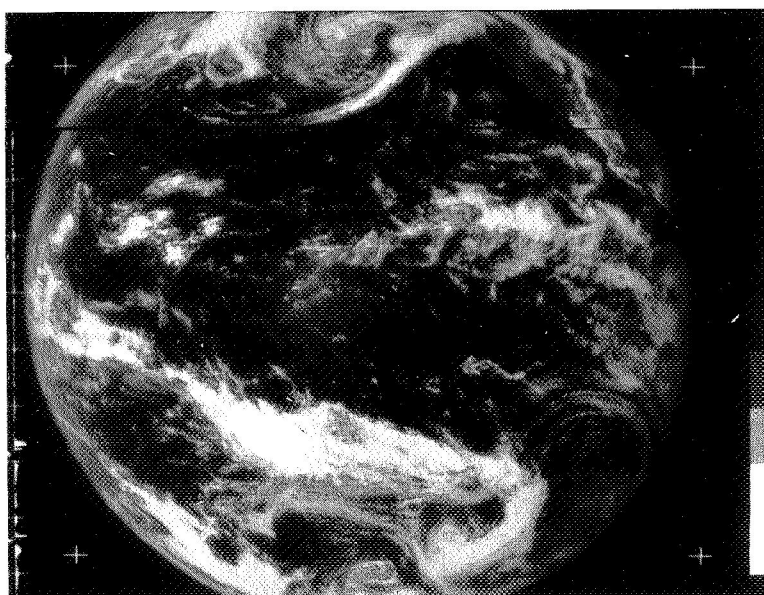
ATS-I 4 OCT 67 22 27 07 Z SEQ 5

5 OCT 67				SUBSATELLITE PT 151.04W 00.01N				TOTAL PICS 6		
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS		
00	04 02 04	00	4001					PE		
02	18 17 24	10	3002	1114F	2142F	2143B	2240G	2230E	4200H	US MEX.
02	18 17 24	20	4000	2142A	2230A	2240A	4200A			MEX
02	18 17 24	50	1002	2145E	1113G	2143C	2141B	4610B		
02	18 17 24	60	4000	2142A	2240A					
02	18 17 24	80	5002	5000A						
03	21 49 34	10	3000	2144F	2142F	2230G	2240G	4200H	4550D	US MEX HAW
03	21 49 34	20	4000	2240A	2230A	2140A	4200A			MEX
03	21 49 34	40	4000	6680A						
03	21 49 34	50	1000	2145E	1113G	2143C	4610C	2240B		
03	21 49 34	60	4000	2142A	2240A	2230A			PE	
03	21 49 34	80	4000	2142A	2230A	1114A	4200A			ASTR PE
04	22 13 11	00	3000							PE
05	22 36 46	00	3001							PE
06	23 00 22	00	3001							PE

6 OCT 67				SUBSALLITE PT 151.00W 00.01N				TOTAL PICS 4		
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS		
01	18 19 32	10	3002	1113F	2143F	31001	2230E	2240G	4610E	US MEX
01	18 19 32	20	4000	2140A	2230A	2240A	4200A			US MEX
01	18 19 32	50	1002	1113E	2142A	2240B	4610B	2145E		
01	18 19 32	60	4000	2142A	2240A					PE
01	18 19 32	80	5002	5000A						
02	22 04 38	00	4000							PE EE
03	22 28 12	10	3000	2143F	1114C	2230E	2240G	4200H	4610G	US MEX HAW PE
03	22 28 12	20	4000	2140A	2230A	4200A	4550A			US MEX CUBA
03	22 28 12	40	4000	2145A	2230A	2240A			PE	
03	22 28 12	50	1000	2144H	2143C	1113E	1114D	2142B	4610C	
03	22 28 12	60	4000	2142A	2230A					
03	22 28 12	80	4000	2142A	1113A	2230A				
04	22 51 47	00	3001							PE



ATS-I 5 OCT 67 21 49 34 Z SEQ 3



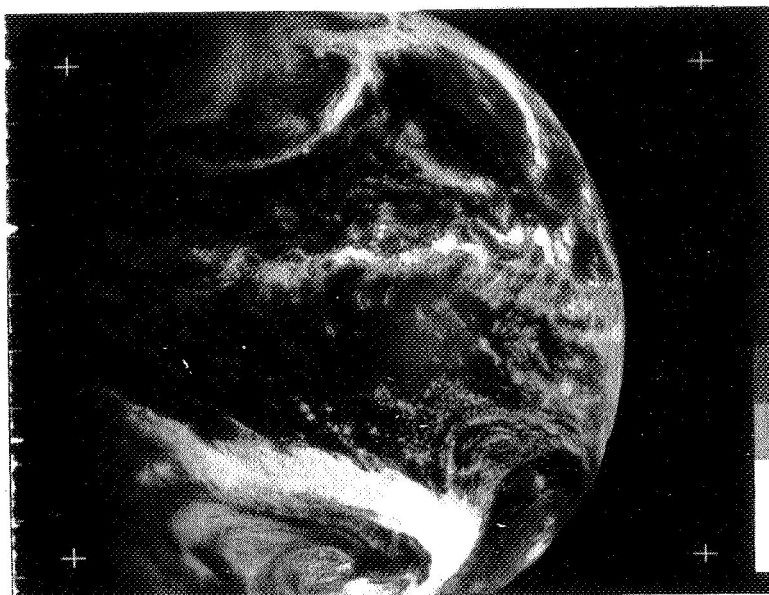
ATS-I 6 OCT 67 22 28 12 Z SEQ 3

7 OCT 67 SUBSATELLITE PT 150.96W 00.01N TOTAL PICS 3

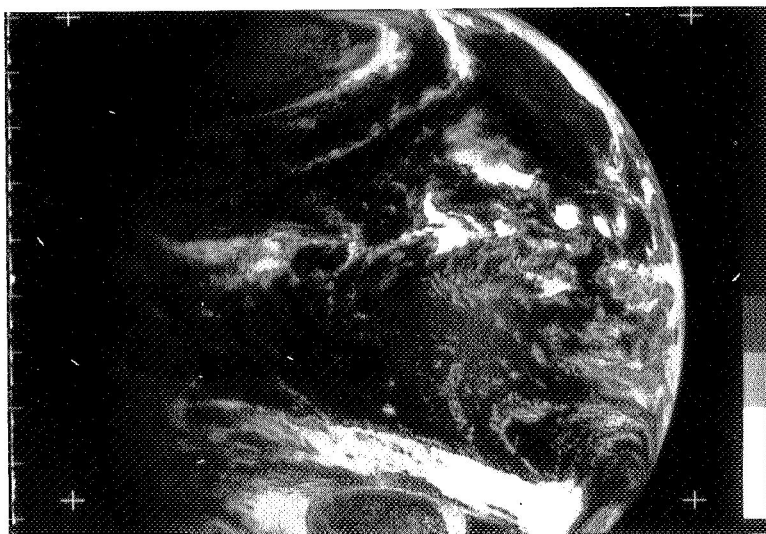
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
01	00 03 34	10	4001	2143F 1114F 3100A 2230E 2240G 4550D	HAW
01	00 03 34	40	4000	2145A 2230A 2240A	
01	00 03 34	50	4001	1113E 2144E 1114D 2143C 4610C	
01	00 03 34	80	4000	2145A 2230A 2240A	PE
02	03 47 14	00	4001		PE
03	18 21 56	10	3002	2145B 1113B 2240G 2230E 4200H 4610E	US MEX
03	18 21 56	20	4000	2142A 2240A 4200A	MEX US
03	18 21 56	50	1002	2145E 1113E 3100B 4610B	
03	18 21 56	60	4000	2142A 2240A	
03	18 21 56	80	5002	5000A	

8 OCT 67 SUBSATELLITE PT 150.91W 00.01N TOTAL PICS 1

SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
01	18 36 37	05	5002	5000A	
01	18 36 37	10	3002	2145B 2230G 2240G 6054E 1221E 4200H	US MEX
01	18 36 37	20	4000	2140A 2230A 2240A 4200A	
01	18 36 37	50	1002	1114G 2142A 4610B	
01	18 36 37	60	4000	2142A 2240A	PE
01	18 36 37	80	5002	5000A	



ATS-I 7 OCT 67 18 21 56 Z SEQ 3

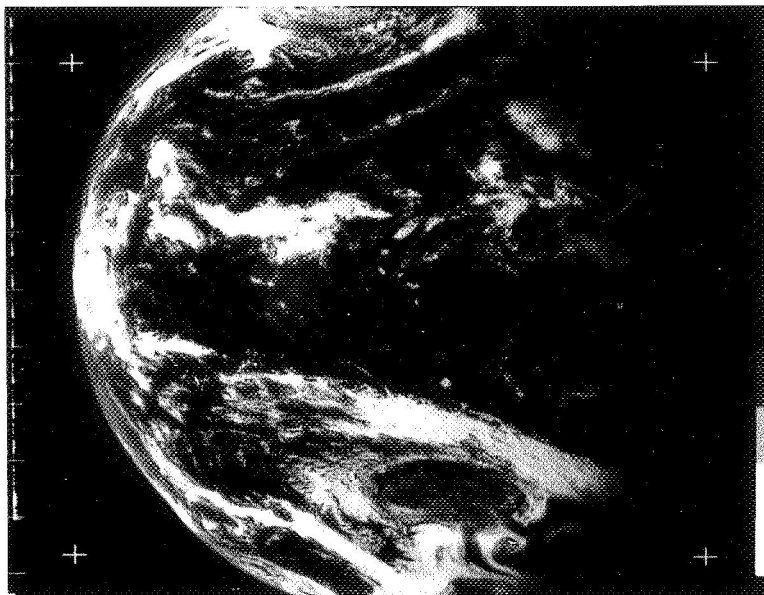


ATS-I 8 OCT 67 18 36 37 Z SEQ 1

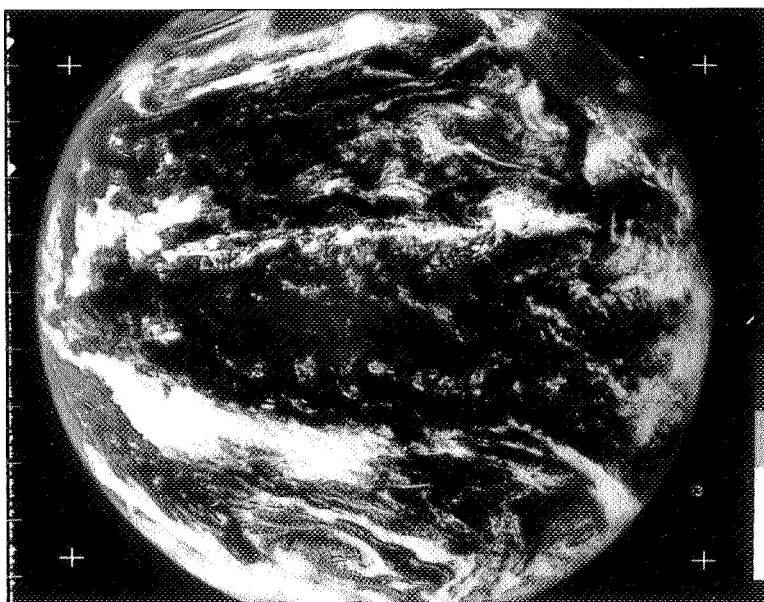
SEQ	START	ZONE	PICQ	DATA CONTENT	DESCRIPTORS	REMARKS
9 OCT 67 SUBSATELLITE PT 150.87W 00.02N TOTAL PICS 2						
01	00 06 46	10	1001	2143C 2142A 2240G 2230G 6054E		
01	00 06 46	40	4000	2145A 2240A 2230A		
01	00 06 46	50	1001	1113E 2142A 2143D 3100C		
01	00 06 46	80	4000	2142A 1110A 2230A 2240A 4200A 4550A	ASTR NZ	
01	00 06 46	90	4000	2144A 1114A		
02	03 43 16	00	4001			

10 OCTOBER 1967 NO DATA AVAILABLE

SEQ	START	ZONE	PICQ	DATA CONTENT	DESCRIPTORS	REMARKS
11 OCT 67 SUBSATELLITE PT 150.77W 00.02N TOTAL PICS 8						
01	18 15 03	10	3002	6054E 2240G 2230E 3100B 2142F 4200H	US MEX	
01	18 15 03	20	4000	2230A 2240A 4550A 4200A	MEX CUBA	
01	18 15 03	50	1000	1113E 2142A 4610B		
01	18 15 03	60	4000	2240A 2142A		
01	18 15 03	80	5002	2142A		
02	20 49 48	00	3000		PE	
03	21 14 40	00	3000		PE EE	
04	21 38 19	00	3000			
05	22 01 52	10	3000	6054E 2240G 2230G 2143F 3100H 4200H	US MEX	
05	22 01 52	20	4000	2240A 4200A	MEX	
05	22 01 52	40	4000	2143A 2240A		
05	22 01 52	50	1000	1113F 2142A 4610C		
05	22 01 52	60	4000	2142A 2240A		
05	22 01 52	80	4000	2142A 4200A	ASTR	
06	22 25 28	00	3000			
07	22 49 06	00	3001			
08	23 12 40	00	3001			



ATS-I 9 OCT 67 00 06 46 Z SEQ 1

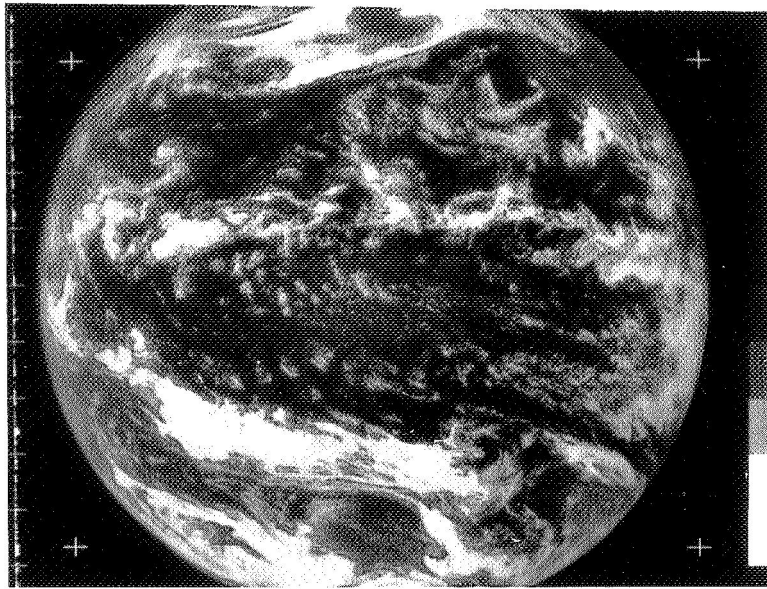


ATS-I 11 OCT 67 22 01 52 Z SEQ 5

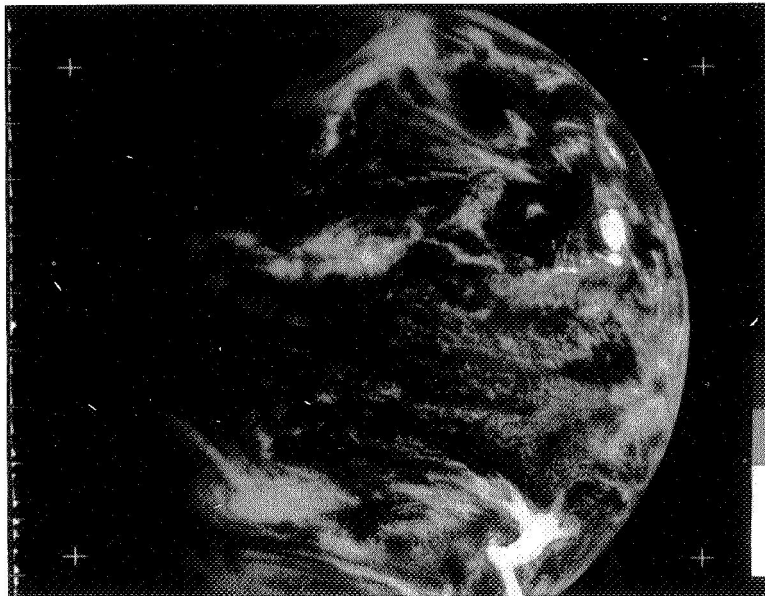
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
12 OCT 67 SUBSATELLITE PT 150.72W 00.02N TOTAL PICS 7					
01	18 20 02	10	3002	2145B 1113B 6054E 2230G 2240G 4200H	US MEX HAW
01	18 20 02	20	4000	2230A 2240A 2140A	
01	18 20 02	50	1002	2145E 1113E 3100F 4610B	
01	18 20 02	60	4000	2142A 2240A	
01	18 20 02	80	5002	2142A	
02	20 58 12	00	3000		
03	21 22 06	00	3000		
04	21 45 43	10	3000	6054E 2145B 1113B 2230G 2240G 4550D	US MEX HAW
04	21 45 43	20	4000	2240A 4200A	US MEX
04	21 45 43	40	4000	2145A 2230A 2240A	
04	21 45 43	50	1000	2145E 1113E 3100F 2143C	
04	21 45 43	60	4000	2142A 2240A 4200A	SA
04	21 45 43	80	4000	2142A 2230A 1113A 4200A	ASTR
05	22 09 19	00	3000		PE
06	22 33 00	00	3000		
07	22 56 34	00	3001		

13 OCTOBER 1967 NO DATA AVAILABLE

SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
14 OCT 67 SUBSATELLITE PT 150.64W 00.01N TOTAL PICS 2					
01	04 26 55	00	4001		PE EE
02	18 13 10	10	3002	6055E 1113I 2240G 2145C 2143B 4200H	US MEX HAW
02	18 13 10	20	4000	2240A 4200A 4550A	MEX CUBA
02	18 13 10	50	1002	2143E 3100F 4610B	
02	18 13 10	60	4000	2240A	
02	18 13 10	80	5002	5000A	



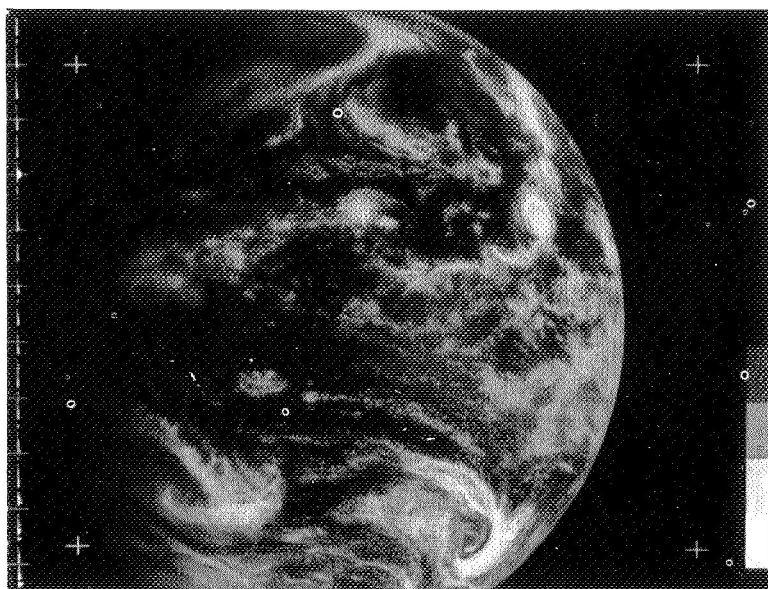
ATS-I 12 OCT 67 21 45 43 Z SEQ 4



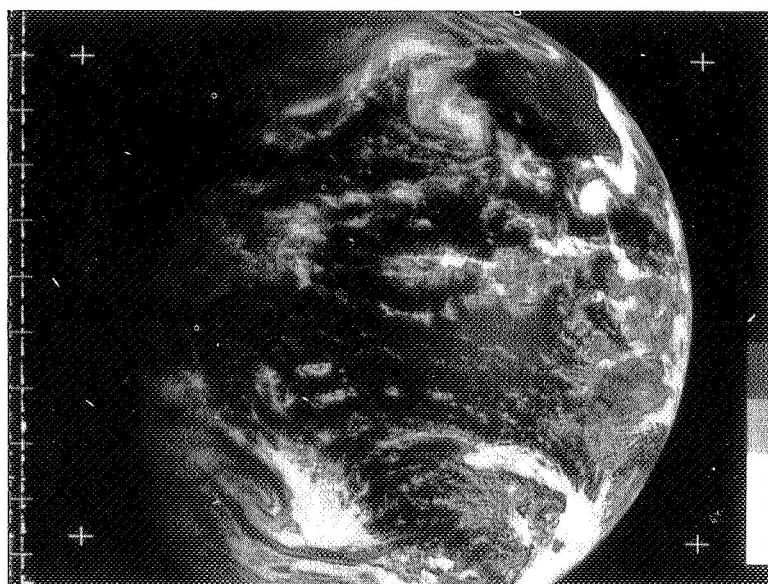
ATS-I 14 OCT 67 18 13 10 Z SEQ 2

15 OCT 67				SUBSATELLITE PT 150.60W 00.01N				TOTAL PICS 7	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	00 05 39	10	1001	2240G	2230D	2142F	2143C	2142H 4610D	
01	00 05 39	40	4000	2230A	2240A	2142A	1113A		PE
01	00 05 39	50	1001	1114F	1113C	2145C	2142A	4610E 3100F	
01	00 05 39	80	4000	2142A	2230A	4200A	4550A		PE ASTR NZ
01	00 05 39	90	4000	2142A	2144A				
02	00 29 16	00	4001						PE
03	00 52 58	00	4001						
04	01 16 34	00	4001						PE EE
05	01 38 05	00	4001						PE EE
06	03 48 47	00	4001						
07	18 08 51	10	3002	2145B	6055E	2240G	2230E	4200H 4610E	US MEX
07	18 08 51	20	4000	2240A	2140A	4200A			MEX
07	18 08 51	50	1002	1113E	1114I	2145E	3100F	4610B	
07	18 08 51	60	4000	2240A	2141A				
07	18 08 51	80	5002	5000A					

16 OCT 67				SUBSATELLITE PT 150.56W 00.01N				TOTAL PICS 7	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	03 55 45	00	4001						
02	07 55 23	00	8000	8000A					PART OF MOON
03	08 12 25	00	8000	8000A					3 MOONS
04	08 17 38	00	8000	8000A					10 MOONS
05	08 36 42	00	8000	8000A					1 1/2 MOONS
06	08 40 05	00	8000	8000A					9 MOONS
07	18 15 36	10	3002	6055E	2143B	2240G	2230G	4200H 4610E	US MEX
07	18 15 36	20	4000	2143A	2240A	2230A	4200A	4550A	MEX CUBA
07	18 15 36	50	1002	1114I	2145K	2142A	4610B		
07	18 15 36	60	4000	2141A	2240A				
07	18 15 36	80	5002	5000A					



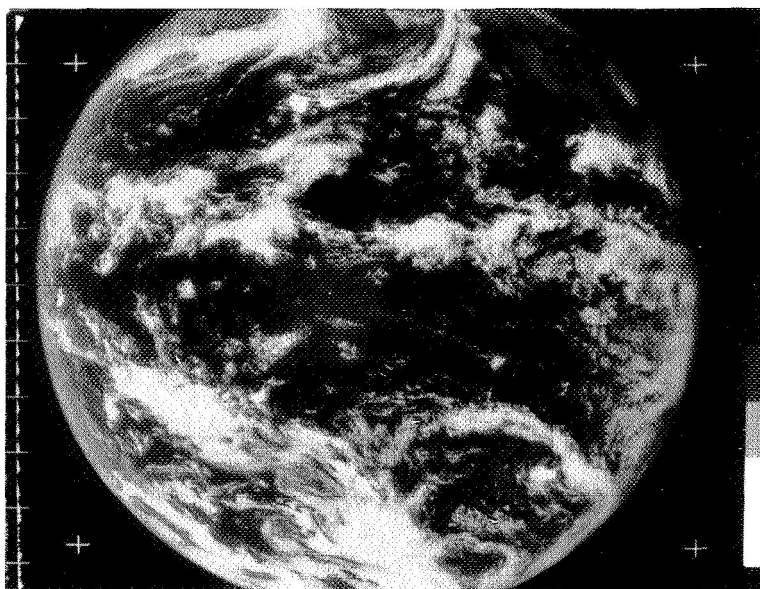
ATS-I 15 OCT 67 18 08 51 Z SEQ 7



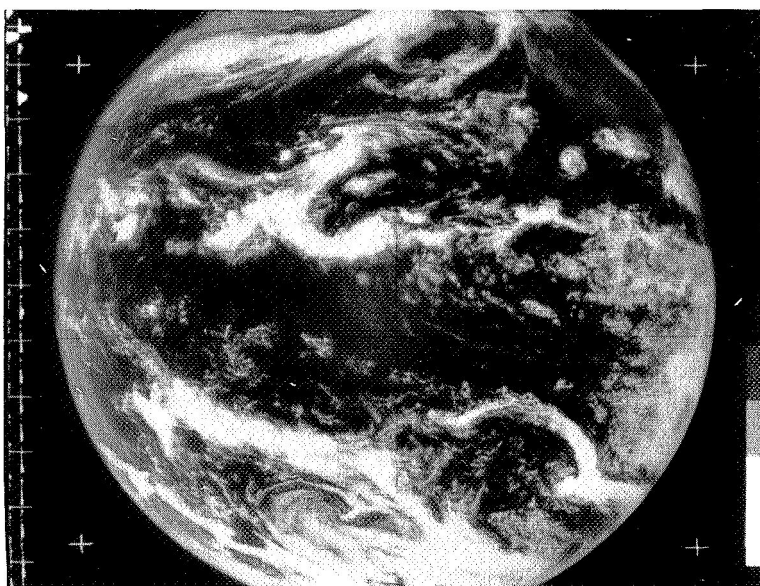
ATS-I 16 OCT 67 18 15 36 Z SEQ 7

17 OCT 67				SUBSATELLITE PT 150.53W 00.01N				TOTAL PICS 6	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 24 40	10	3002	1113B	2145B	6055E	2240G 2230G 4200H	US MEX HAW	
01	18 24 40	20	4000	2145A	2240A	2230A	4200A 4550A	US MEX CUBA	
01	18 24 40	50	1002	2143D	2142A	4610B	3100I		
01	18 24 40	60	4000	2142A	2240A				
01	18 24 40	80	5002	2142A					
02	20 42 10	00	3000						
03	21 18 04	00	3000					PE	
04	21 41 38	00	3000						
05	22 05 15	10	3000	6055E	2240G	2230G	2143C 2142A 4200H	US MEX	
05	22 05 15	20	4000	1113A	2145A	2240A	4200A 4550A	MEX CUBA	
05	22 05 15	40	4000	2143A	2230A	2240A			
05	22 05 15	50	1000	2143D	2142A	2230C	4610C		
05	22 05 15	60	4000	2142A	2240A				
05	22 05 15	80	4000	1113A	2142A	2230A	4200A	ASTR	
06	22 34 48	00	3000					EE	

18 OCT 67				SUBSATELLITE PT 150.49W 00.01N				TOTAL PICS 11	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	00 17 53	10	1001	2240G	2230G	2143C	2142A 4610D		
01	00 17 53	40	4000	2230A	2143A	1113A			
01	00 17 53	50	1001	1113D	2145D	2142B	4610C		
01	00 17 53	80	4000	2142A	1113A	2230A	4550A 4200A	ASTR NZ	
01	00 17 53	90	5000	5000A					
02	00 41 28	00	4001						
03	01 05 07	00	4001						
04	01 28 44	00	7000						
05	04 22 06	00	4001						
06	21 06 45	00	3000						
07	21 30 25	10	3000	6055E	2240G	2230G	2143F 4610G 4200H	US MEX	
07	21 30 25	20	4000	2230A	2240A	4200A		MEX	
07	21 30 25	40	4000	2230A	2140A	2240A			
07	21 30 25	50	1000	1113G	2145G	4210C			
07	21 30 25	60	4000	2141A	2240A				
07	21 30 25	80	4000	2142A	4200A	4550A		ASTR NWGN	
08	21 54 00	00	3500						
09	22 17 37	00	3000					PE	
10	22 40 59	00	3000					PE	
11	23 04 48	00	3001						



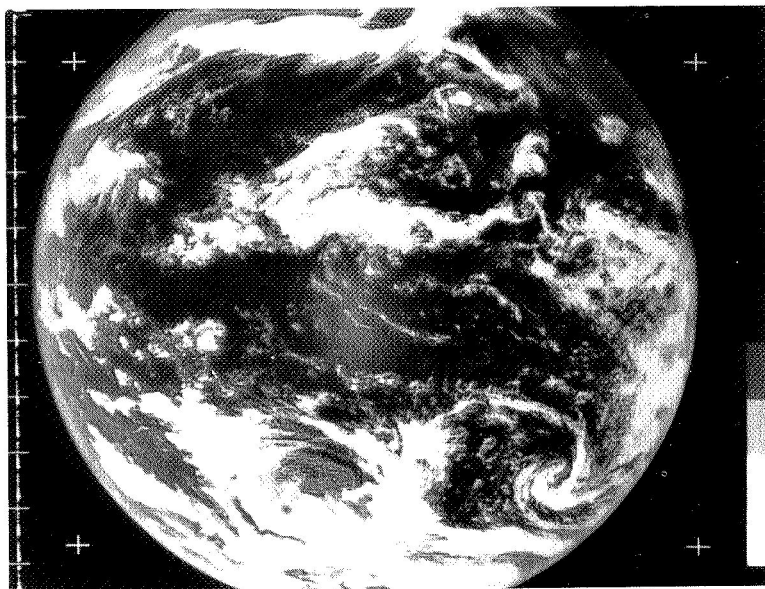
ATS-I 17 OCT 67 22 05 15 Z SEQ 5



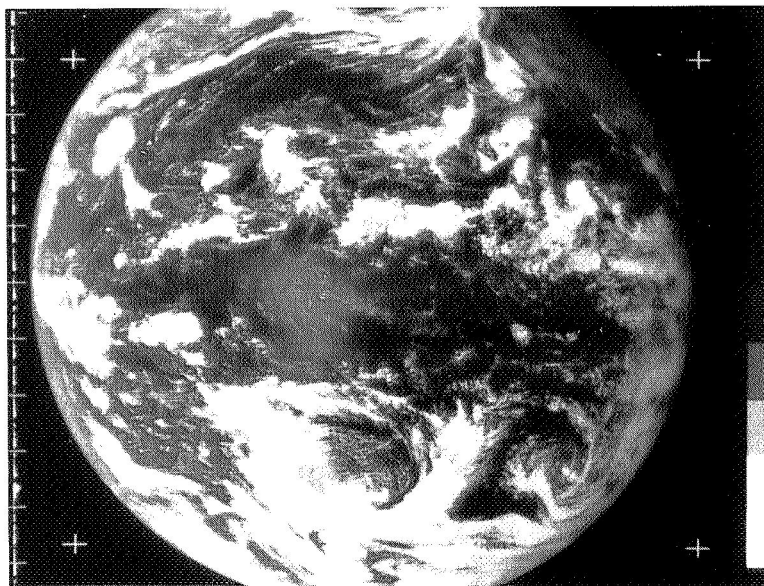
ATS-I 18 OCT 67 21 30 25 Z SEQ 7

19 OCT 67				SUBSATELLITE PT 150.45W 00.01N				TOTAL PICS 12	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	00 13 36	10	1001	2240G	2230D	6055E	2143C	4610D	
01	00 13 36	40	4000	2230A	2143A	1113A			
01	00 13 36	50	1001	1113D	2145E	2142M	4610C		
01	00 13 36	80	4000	2143A	2240A	4200A			ASTR
01	00 13 36	90	5000	5000A					
02	00 37 14	00	4001						
03	01 00 52	00	4001						
04	01 24 27	00	4001						
05	04 14 20	00	4001						PE
06	18 49 29	10	3002	6055E	2230G	2240G	2143F	4200H 4610E	US MEX
06	18 49 29	20	4000	2230A	2240A	4200A	4550A		MEX CUBA
06	18 49 29	50	1000	1113G	2145E	2143D	4610B		
06	18 49 29	60	4000	2141A	2240A				
06	18 49 29	80	5002	2142A					
07	20 54 15	00	3000						
08	21 17 55	00	3000						SCRATCHED NEG
09	21 41 29	10	3000	6055E	2230G	2240G	2143F	3100F 4610G	US MEX
09	21 41 29	20	4000	2240A	4200A				MEX
09	21 41 29	40	4000	2230A	2140A				
09	21 41 29	50	1000	1113G	2145E	2143D	3100F 4610C		
09	21 41 29	60	4000	2141A	2240A	4200A			SA
09	21 41 29	80	4000	2143A	2230A	4200A			ASTR
10	22 05 11	00	3000						PE
11	22 28 45	00	3000						
12	22 52 23	00	3001						

20 OCT 67				SUBSATELLITE PT 150.41W 00.01N				TOTAL PICS 9	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	00 08 46	00	4001						PR PE
02	00 32 25	10	4001	6055E	2142F	2240G	2230D	4610D	
02	00 32 25	40	4000	2230A	2142A				
02	00 32 25	50	4001	1113G	2145D	4610C			
02	00 32 25	80	4000	2142A	2230A	4200A			ASTR
02	00 32 25	90	5000	5000A					
03	00 56 57	00	4001						
04	01 19 34	00	4001						
05	01 43 12	00	4001						
06	21 15 33	00	3000						PR PE
07	22 03 47	00	4000						NG PE
08	22 38 16	10	3000	2145C	2143B	2230G	2240G	6055E 4200H	US MEX
08	22 38 16	20	4000	2240A	4200A				MEX
08	22 38 16	40	4000	2230A	2142A				
08	22 38 16	50	1000	2145G	1113G	4610C			
08	22 38 16	60	4000	2140A	2240A				
08	22 38 16	80	4000	2142A	2230A	2240A	4200A		ASTR
08	22 38 16	90	5000	5000A					
09	23 17 02	00	3001						



ATS-I 19 OCT 67 21 41 29 Z SEQ 9



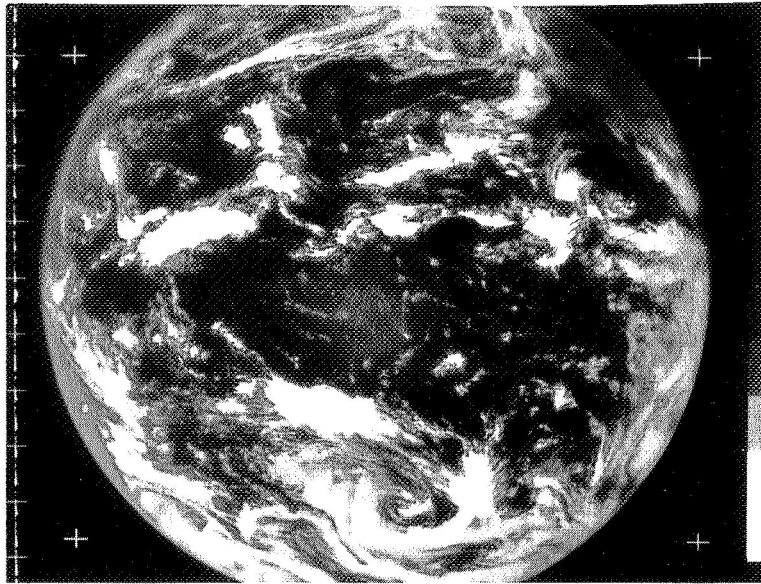
ATS-I 20 OCT 67 22 38 16 Z SEQ 8

21 OCT 67 SUBSATELLITE PT 160.40W 00.01N TOTAL PICS 18

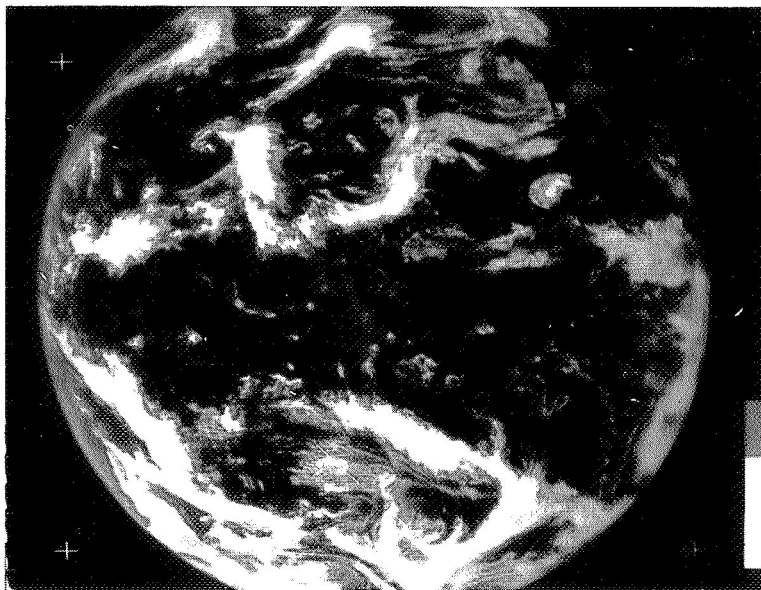
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS	REMARKS
01	00 08 32	00	4001		PR
02	00 42 56	00	4001		PE
03	01 17 56	10	4001	2143C 2240G 2230G 4610D 4550D	HAW
03	01 17 56	40	4000	2230A 2142A	
03	01 17 56	50	4001	1113D 2145E 4610C 2230C	
03	01 17 56	80	4000	2230A 2142A 1113A 4200A	ASTR
03	01 17 56	90	5001	5000A	
04	01 51 10	00	4001		
05	02 27 03	00	4001		
06	03 17 52	00	4001		
07	03 57 58	00	4001		
08	05 44 18	00	5001		
09	06 07 56	00	5001		
10	06 31 37	00	5001		
11	18 46 11	10	3002	6056E 2230G 2240G 2143B 1114F 4200H	US MEX HAW
11	18 46 11	20	4000	2230A 2240A 4200A	US MEX
11	18 46 11	50	1000	1113D 2145E 3100H 4610F	
11	18 46 11	60	4000	2140A 2240A	
11	18 46 11	80	4002	2140A 2230A	
12	20 51 48	00	3000		
13	21 15 25	00	3000		
14	21 39 00	10	3000	6056E 2230G 2240G 2142F 4200H 4550D	US MEX HAW
14	21 39 00	20	4000	2230A 2240A 2140A 4200A	US MEX
14	21 39 00	40	4000	2230A 2140A	
14	21 39 00	50	1000	1113G 2145E 2142C 4610C	
14	21 39 00	60	4000	2140A	
14	21 39 00	80	4000	2142A 1113A 2230A 4200A	ASTR
14	21 39 00	90	5000	5000A	
15	22 02 38	00	3500		
16	22 26 16	00	3000		
17	22 49 55	00	3001		
18	23 13 29	00	4001		

22 OCT 67 SUBSATELLITE PT 150.38W 00.01N TOTAL PICS 8

SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS	REMARKS
01	03 14 56	00	4001		
02	18 03 14	10	3002	6056E 2240G 2230G 2143F 4200H 4610E	US MEX
02	18 03 14	20	4000	2240A 4200A	MEX
02	18 03 14	50	1002	1113G 2145E 4610B	
02	18 03 14	60	4000	2140A 2240A	
02	18 03 14	80	5002	2140A	
03	20 58 26	00	3000		
04	21 22 05	00	3000		
05	21 45 42	10	3000	6056E 2230G 2143F 2142C 3100A 4550D	US MEX HAW
05	21 45 42	20	4000	2240A 4200A	MEX
05	21 45 42	40	4000	2142A 2230A	
05	21 45 42	50	1000	1113G 2145E 4610C	
05	21 45 42	60	4000	2141A 2240A	
05	21 45 42	80	4000	2143A 2230A 4200A	ASTR
06	22 09 17	00	3000		
07	22 33 09	00	3001		
08	22 56 33	00	3001		



ATS-I 21 OCT 67 21 39 00 Z SEQ 14



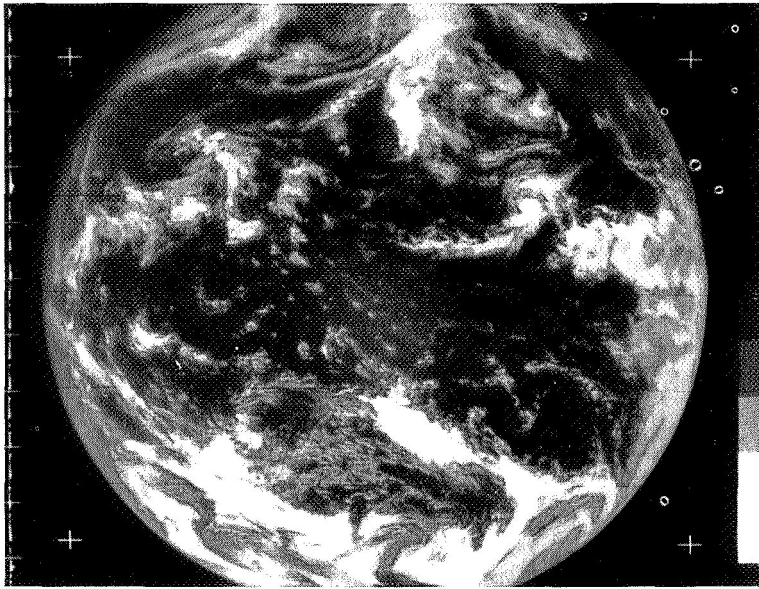
ATS-I 22 OCT 67 21 45 42 Z SEQ 5

23 OCT 67 SUBSATELLITE PT 150.36W 00.01N TOTAL PICS 7

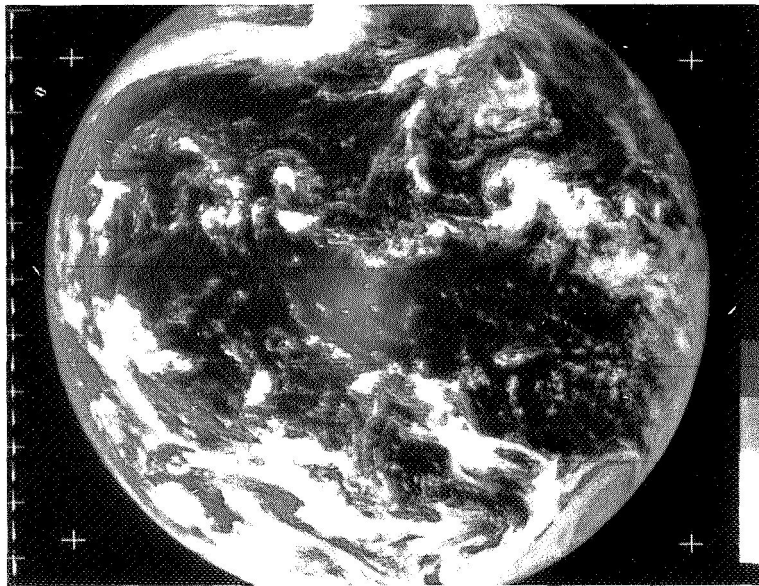
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
01	03 14 09	00	4001		
02	18 12 05	10	3002	6056E 2240G 2230E 2143B 4200H 4610E	US MEX
02	18 12 05	20	4000	2230A 2240A 4200A	MEX
02	18 12 05	50	1002	1113D 2145G 3100A 4610B	
02	18 12 05	60	4000	2141A 2240A	
02	18 12 05	80	5002	2142A	
03	18 35 39	00	3002		
04	18 59 15	00	4502		
05	19 52 00	00	3002		
06	20 24 29	00	3002		PE
07	21 14 23	10	3000	6056E 2240G 2230G 2142F 3100A 4200H	US MEX HAW
07	21 14 23	20	4000	2240A 4200A	MEX
07	21 14 23	40	4000	2230A 2142A	
07	21 14 23	50	1000	1113G 2145E 4610C	
07	21 14 23	60	4000	2141A 2240A	
07	21 14 23	80	4000	2142A 2240A 4200A	ASTR

24 OCT 67 SUBSATELLITE PT 150.34W 00.01N TOTAL PICS 10

SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
01	03 21 46	00	4001		
02	03 58 26	00	4001		
03	18 09 57	10	3002	6056E 2230G 2240G 2145B 1113B 4200H	US MEX
03	18 09 57	20	4000	2140A 2230A 2240A 4200A 4550A	US MEX CUBA
03	18 09 57	50	1002	1113G 2142A 4610B	
03	18 09 57	60	4000	2140A 2240A	
03	18 09 57	80	5002	2142A	
04	18 41 22	00	3002		
05	19 11 01	00	3002		
06	20 53 24	00	3000		
07	21 22 20	00	7000		
08	21 57 26	10	3000	6056E 2240G 2230G 2142F 4200H 4550D	US MEX HAW
08	21 57 26	20	4000	2230A 2240A 4200A 4550A	MEX CUBA
08	21 57 26	40	4000	2230A 2142A	
08	21 57 26	50	1000	1113E 2145G 4610C 3100A	
08	21 57 26	60	4000	2141A 2240A	
08	21 57 26	80	4000	2142A 4200A	ASTR
08	21 57 26	90	5000	5000A	
09	22 31 53	00	3001		
10	23 02 52	00	3001		



ATS-I 23 OCT 67 21 14 23 Z SEQ 7



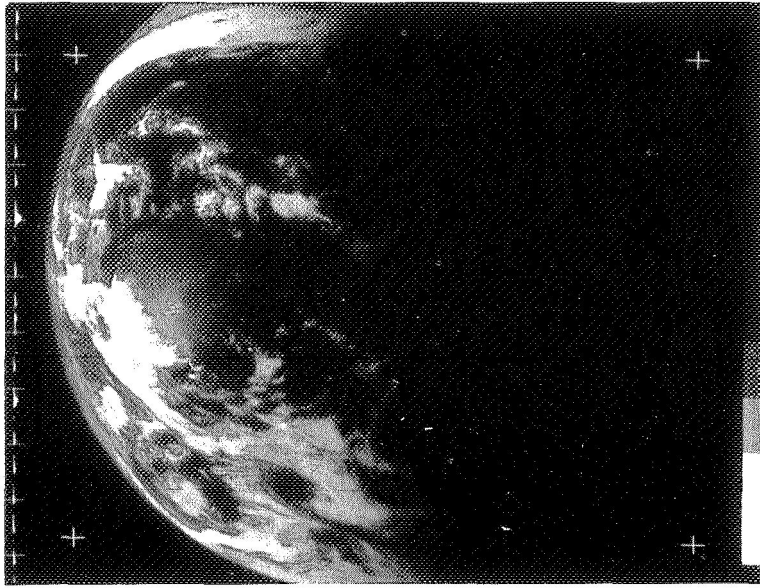
ATS-I 24 OCT 67 21 57 26 Z SEQ 8

25 OCT 67 SUBSATELLITE PT 150.32W 00.02N										TOTAL PICS	4
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS						REMARKS	
01	02 28 57	10	4001	2240D	2142C	4610D					
01	02 28 57	40	4000	2230A	2142A						
01	02 28 57	50	4001	1113D	2145D	3100D					
01	02 28 57	80	4000	2142A	1113A	2230A	4610A				
01	02 28 57	90	5001	5000A							
02	02 57 43	00	4001								
03	03 30 18	00	4001								
04	04 01 08	00	4001								

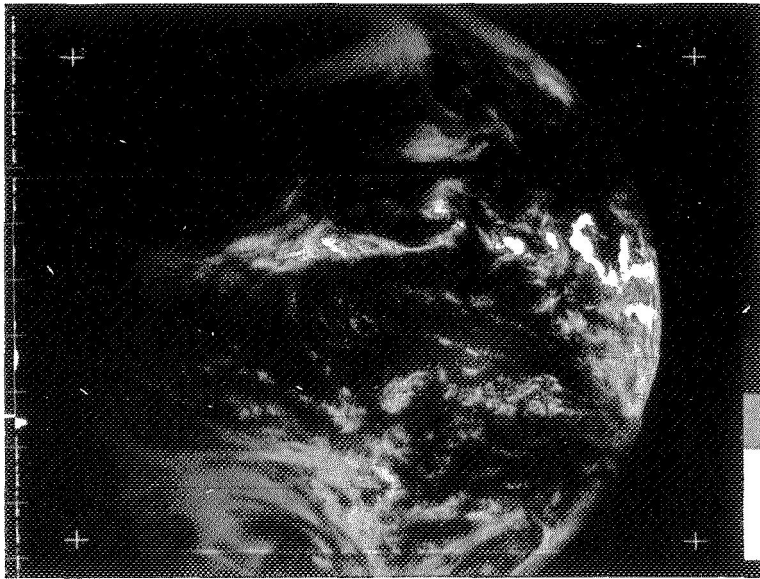
26 OCT 67 SUBSATELLITE PT 150.30W 00.02N										TOTAL PICS	2
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS						REMARKS	
01	03 30 59	00	4001								
02	18 14 48	05	5002	5000A							
02	18 14 48	10	3002	6056E	2240G	2230G	2142F	4610E	4200H	PE US MEX	
02	18 14 48	20	4000	2230A	4200A					MEX PE	
02	18 14 48	50	1002	2142I	2141E	4610B					
02	18 14 48	60	4000	2240A							
02	18 14 48	80	5002	2142A							

27 OCTOBER 1967 NO DATA AVAILABLE

28 OCTOBER 1967 NO DATA AVAILABLE



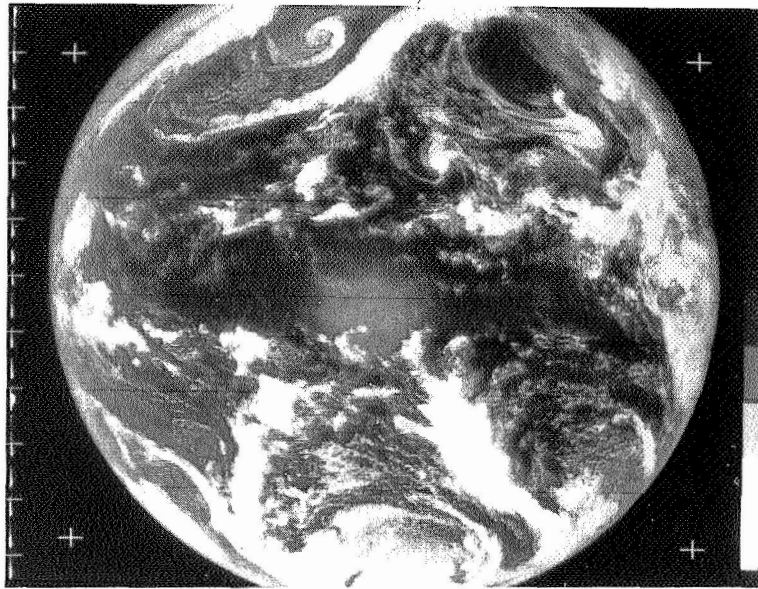
ATS-I 25 OCT 67 02 28 57 Z SEQ 1



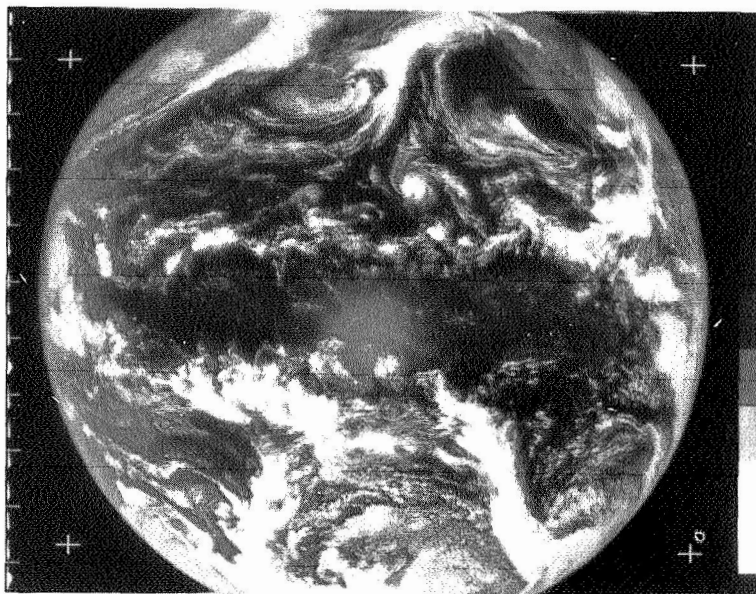
ATS-I 26 OCT 67 18 14 48 Z SEQ 2

29 OCT 67				SUBSATELLITE PT 150.25W 00.02N		TOTAL PICS 27	
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS	REMARKS		
01	13 16 37	00	5002				
02	13 40 17	00	5002				
03	14 03 53	00	5002				
04	14 27 31	00	5002				
05	14 51 09	00	4002				
06	15 14 45	00	4002				
07	15 38 22	00	4002				
08	16 02 00	05	5002	5000A			
08	16 02 00	10	4002	6056E 2230E 2240E 2140B 4200H 4610E	US MEX		
08	16 02 00	20	4000	2230A 2240A 2140A			
08	16 02 00	50	4002	2145E 2230B 4610B			
08	16 02 00	60	4000	2140A 2230A			
09	16 25 37	00	4002				
10	16 49 16	00	3002				
11	17 12 53	00	3002				
12	17 36 31	00	3002				
13	18 00 09	00	3002				
14	18 23 47	00	3002				
15	18 47 24	10	3002	6056E 2230G 2240G 2143B 1113C 4200H	US MEX		
15	18 47 24	20	4000	2230A 2240A 2140A			
15	18 47 24	50	1000	2145E 3100A 4610F			
15	18 47 24	60	4000	2140A 2230A			
15	18 47 24	80	4002	2142A			
16	19 11 03	00	3002				
17	19 34 38	00	3002		EE		
18	19 58 15	00	3002				
19	20 21 53	00	3002				
20	20 45 32	00	3000				
21	21 09 17	00	3000				
22	21 32 47	00	3500				
23	21 49 36	10	3000	6056E 1113C 2143B 2230G 2240G 4200H	PE EE		
23	21 49 36	20	4000	2230A 2240A 2140A 4200A	US MEX HAW		
23	21 49 36	40	4000	2142A 2230A	C AMERICA		
23	21 49 36	50	1000	2143E 2142A 4610C			
23	21 49 36	60	4000	2140A			
23	21 49 36	80	4000	2140A 1113A 4200A 2230A	ASTR		
24	22 13 13	00	3000				
25	22 36 51	00	3001				
26	23 00 29	00	3001				
27	23 24 07	00	4001				

30 OCT 67				SUBSATELLITE PT 150.24W 00.02N		TOTAL PICS 39	
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS	REMARKS		
01	01 34 14	10	4501	6056E 1114C 2142J 2230D 2240G 4610D	HAW		
01	01 34 14	40	4500	2230A 2142A 1113A			
01	01 34 14	50	4001	2142A 2230C 4610C			
01	01 34 14	80	4000	1113A 2142A 2230A 4200A	ASTR		
01	01 34 14	90	5001	5000A			
02	01 57 50	00	4001				
03	02 21 30	00	4001				
04	02 45 07	00	4001				
05	03 08 50	00	4001				
06	03 32 25	00	4001				
07	03 58 00	00	4001		PE		
08	04 24 02	00	4001				
09	04 48 24	00	4001				
10	05 12 00	00	4001				
11	05 35 26	00	4001				
12	05 59 22	00	5001				
13	06 22 56	00	5001				
14	06 46 33	00	5001				
15	13 17 02	00	5002				
16	13 40 40	00	5002				
17	14 04 21	00	5002				
18	14 27 55	00	5002				
19	14 51 35	00	5002				
20	15 15 12	00	4002				
21	15 38 50	00	4002				
22	16 02 25	10	4002	6056E 2240E 2230E 2140H 4200H	US MEX		
22	16 02 25	20	4000	2240A 2230A 2140A			
22	16 02 25	50	4002	2143E 4200B			
22	16 02 25	60	4000	2240A 2140A			
23	16 26 03	00	4002				
24	16 49 41	00	4002				
25	17 13 19	00	4002				
26	17 36 57	00	4002				
27	18 00 35	00	4002				
28	18 24 12	00	4002				
29	18 47 50	00	3002				
30	19 11 28	10	3002	6056E 2143F 2240G 1114C 2230E 4200H	US MEX		
30	19 11 28	20	4000	2240A 2142A 4200A	MEX		
30	19 11 28	50	1000	2143G 3100A 4610F			
30	19 11 28	60	4000	2240A 2140A			
30	19 11 28	80	4002	2142A 1113A			
31	19 35 06	00	3002				
32	19 58 41	00	3002				
33	20 22 19	00	3002				
34	20 46 01	00	3000				
35	21 09 34	00	3000				
36	21 39 11	10	3000	6056E 2240G 2230E 2145F 2143C 1114C	US MEX		
36	21 39 11	20	4000	1113A 2140A 2230A 2240A			
36	21 39 11	40	4000	2142A 2230A			
36	21 39 11	50	1000	2143E 2145D 2230C 4610C			
36	21 39 11	60	4000	2140A 2230A			
36	21 39 11	80	4000	2142A 2230A 4200A	ASTR		
37	23 08 16	00	4001				
38	23 31 50	00	4001				
39	23 55 32	00	4001				



ATS-I 29 OCT 67 21 49 36 Z SEQ 23



ATS-I 30 OCT 67 21 39 11 Z SEQ 36

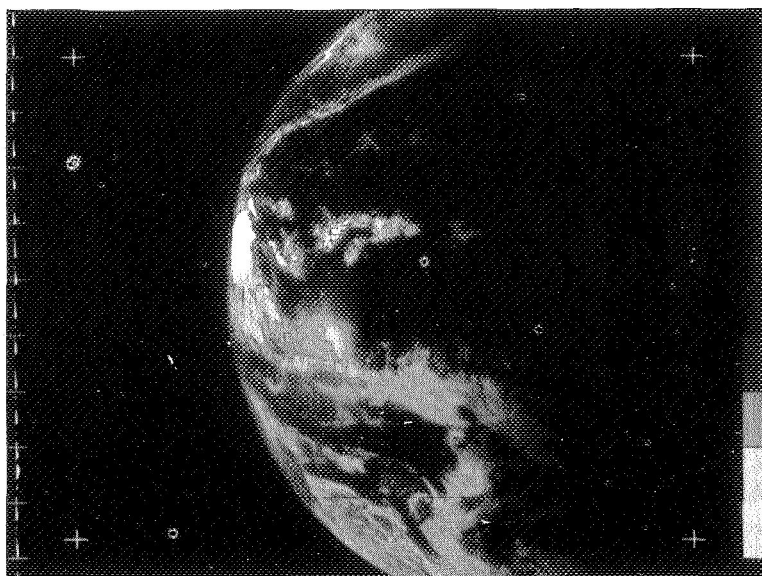
31 OCT 67 SUBSATELLITE PT 150.23W 00.02N TOTAL PICS 10

SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
01	03 12 33	10	4001	2142C 2240D 4610D	
01	03 12 33	40	4000	2230A 2142A 1113A	
01	03 12 33	50	4001	2142I 1114D	
01	03 12 33	80	4000	2142A 2230A 2240A 1114A 4200A 4610A	ASTR
02	03 36 09	00	4001		
03	03 59 50	00	4501		PE
04	04 17 18	00	4001		
05	04 41 00	00	4001		
06	05 04 38	00	4001		
07	05 28 21	00	4001		
08	05 52 00	00	5001		
09	06 15 32	00	5001		
10	06 39 05	00	5001		

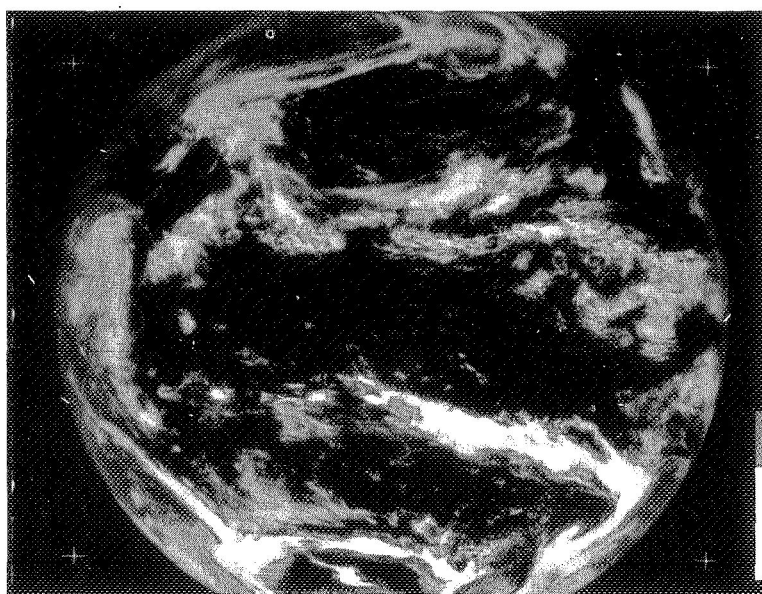
1 THROUGH 8 NOVEMBER 1967 NO DATA AVAILABLE

9 NOV 67 SUBSATELLITE PT 150.14W 00.01N TOTAL PICS 3

SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
01	20 38 38	00	3000		PE
02	21 02 22	00	3000		PE
03	21 25 55	10	3000	2240G 2230G 2143J 4200H 4550D	US MEX HAW
03	21 25 55	20	4000	2140A 2240A	
03	21 25 55	40	4000	2142A 2230A 6686A	
03	21 25 55	50	1000	1113E 2145H 4610C	
03	21 25 55	60	4000	2140A 2240A	
03	21 25 55	80	4000	2145A 2230A 1113A 4200A	ASTR



ATS-I 31 OCT 67 03 12 33 Z SEQ 1



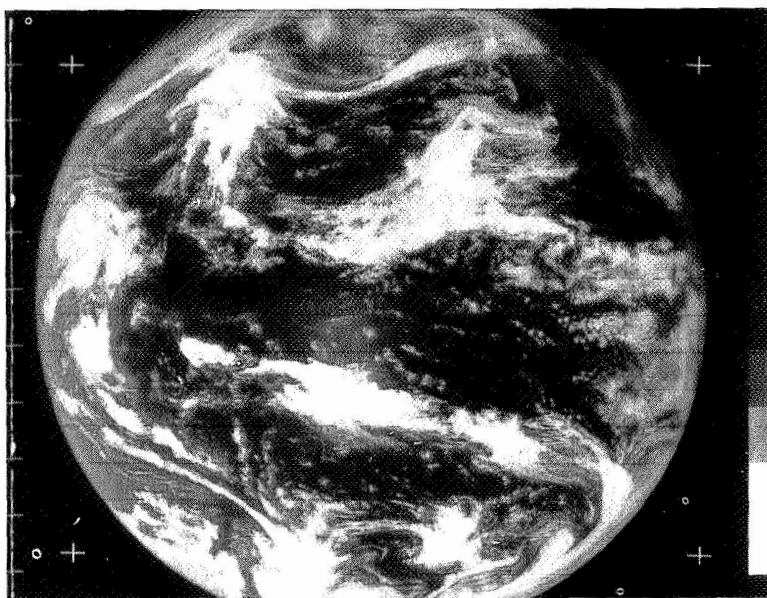
ATS-I 9 NOV 67 21 25 55 Z SEQ 3

10 NOV 67				SUBSATELLITE PT 150.13W 00.01N				TOTAL PICS 3		
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS					REMARKS	
01	21 36 00	00	3000							
02	21 59 35	10	3000	2143F	2230G	2240G	4710B	4200H	4550D	US MEX HAW
02	21 59 35	20	4000	2240A	2140A					
02	21 59 35	40	4000	6686A	2140A	2240A				
02	21 59 35	50	1000	2145G	1113G	2230C	4610C	3100F		
02	21 59 35	60	4000	2143A	2240A					
02	21 59 35	80	4000	2142A	2230A	4200A				ASTR
03	22 23 13	00	3001							

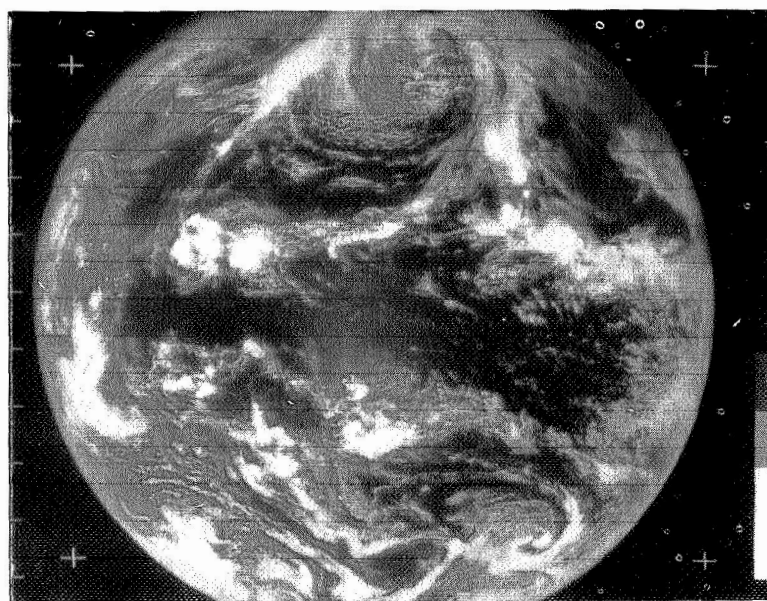
11 NOVEMBER 1967 NO DATA AVAILABLE

12 NOV 67				SUBSATELLITE PT 150.10W 00.01N				TOTAL PICS 3		
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS					REMARKS	
01	21 19 24	00	3000							
02	21 43 04	10	3000	2230G	2240G	1113B	2145F	3100A	4200H	MEX US HAW
02	21 43 04	20	4000	2240A	4200A					US MEX
02	21 43 04	40	4000	6686A	1113A	2140A				
02	21 43 04	50	1000	1113G	2145E	2143D	2230C	4610C		
02	21 43 04	60	4000	2240A	2140A					
02	21 43 04	80	4000	1113A	2145A	4200A				ASTR
03	22 06 39	00	3000							

13 NOVEMBER 1967 NO DATA AVAILABLE



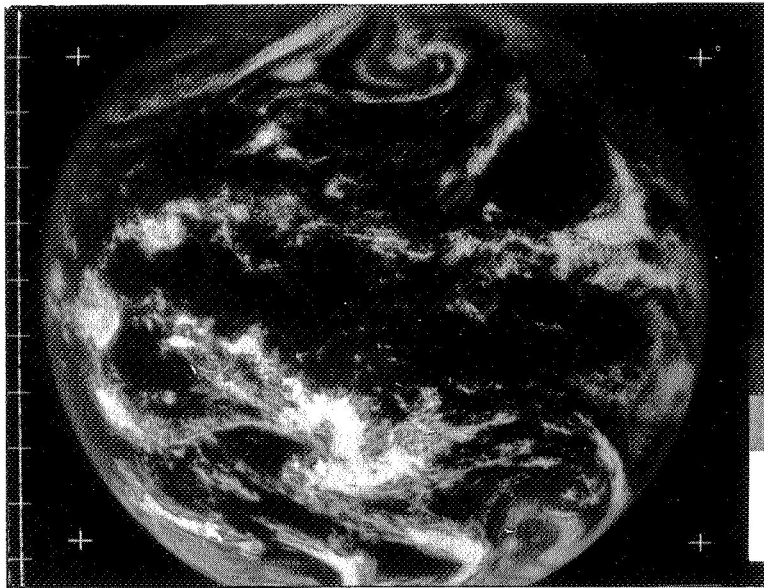
ATS-I 10 NOV 67 21 59 35 Z SEQ 2



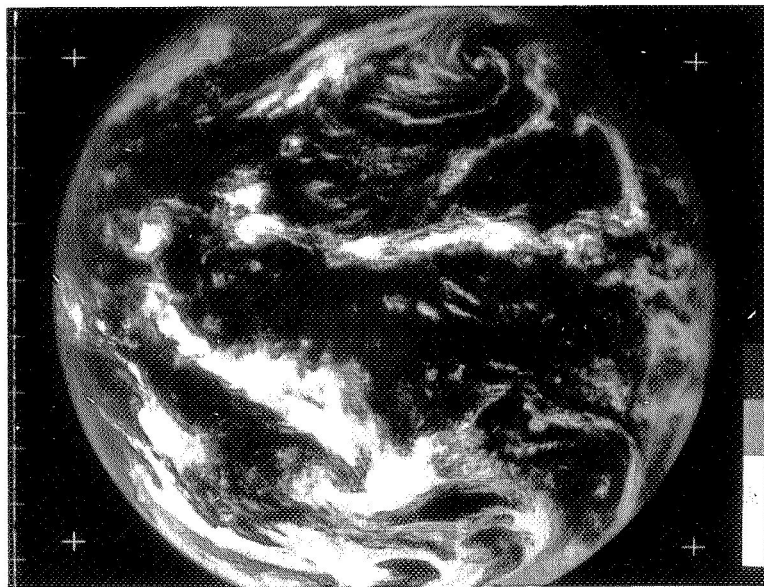
ATS-I 12 NOV 67 21 43 04 Z SEQ 2

14 NOV 67				SUBSATELLITE PT 150.06W 00.01N				TOTAL PICS 4	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	21 18 36	00	3000						
02	21 42 18	10	3000	1114B	2144F	2142F	2230G 2240G 4200H	US MEX HAW	
02	21 42 18	20	4000	2240A	4200A			MEX	
02	21 42 18	40	4000	2230A	2140A				
02	21 42 18	50	1000	2142G	2145C	1113I			
02	21 42 18	60	4000	2140A	2230A				
02	21 42 18	80	4000	2230A	2140A	4550A 4200A	ASTR NZ		
03	22 05 51	00	3000						
04	22 29 38	00	3001						

15 NOV 67				SUBSATELLITE PT 150.04W 00.00W				TOTAL PICS 4	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	22 00 42	10	3000	1114B	2142F	2230G 2240G 4200H 4550D	US MEX HAW		
01	22 00 42	20	4000	2240A	4200A			MEX	
01	22 00 42	40	4000	2142A					
01	22 00 42	50	1000	1113G	2145I	2142A 4610C			
01	22 00 42	60	4000	2240A	2140A				
01	22 00 42	80	4000	2142A	1113A	2143A 4200A 4550A	ASTR NZ		
02	22 24 17	00	3001						
03	22 48 00	00	3001						
04	23 11 29	00	1001						



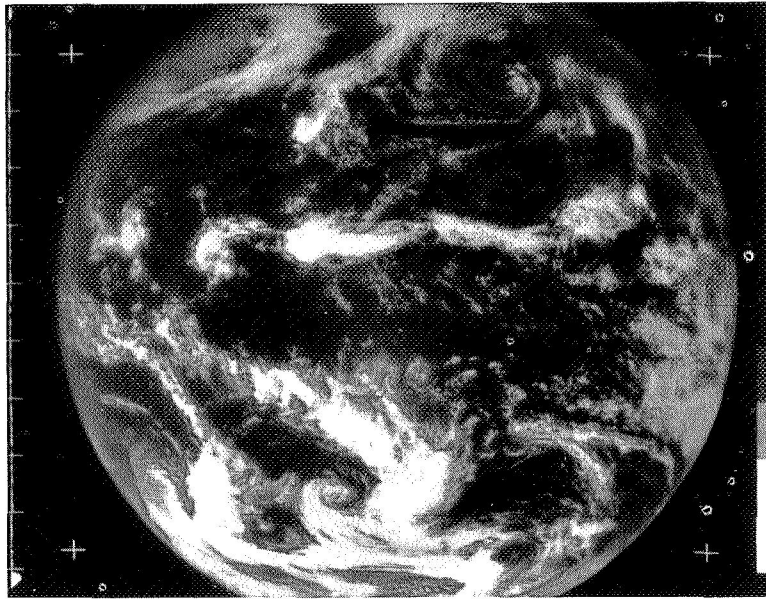
ATS-I 14 NOV 67 21 42 13 Z SEQ 2



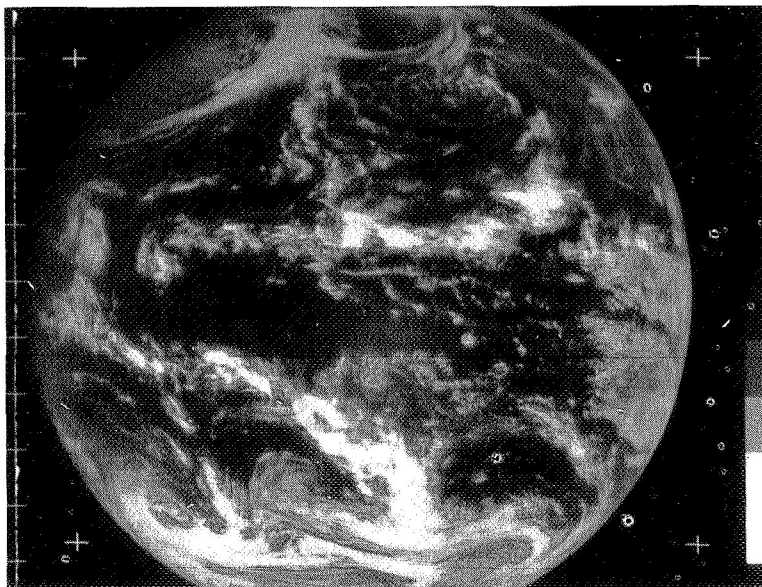
ATS-I 15 NOV 67 22 00 42 Z SEQ 1

				16 NOV 67	SUBSATELLITE PT 150.02W 00.00N	TOTAL PICS 3
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS
01	19 04 25	00	4002			PC
02	21 31 00	10	3000	1114B 2143F 2240G 2230G 3100A 4200H	US MEX HAW	
02	21 31 00	20	4000	2240A 4200A	MEX	
02	21 31 00	40	4000	2140A 2230A 2240A		
02	21 31 00	50	1000	1113D 2145D 2142G 3100A 4610C		
02	21 31 00	60	4000	2140A 2240A		
02	21 31 00	80	4000	2143A 2230A 4200A	ASTR	
03	21 54 26	00	3500			

				17 NOV 67	SUBSATELLITE PT 150.00W 00.00S	TOTAL PICS 3
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS
01	20 00 00	00	3002			
02	20 23 37	00	3002			
03	20 47 12	10	3000	1113B 2145C 2230G 2240G 3100A 4200H	US MEX HAW	
03	20 47 12	20	4000	2240A 2140A 4200A	MEX	
03	20 47 12	40	4002	2230A 2142A		
03	20 47 12	50	1000	1114I 2145G 4610F		
03	20 47 12	60	4000	2240A 2140A		
03	20 47 12	80	4000	1113A 2130A 4200A	ASTR	



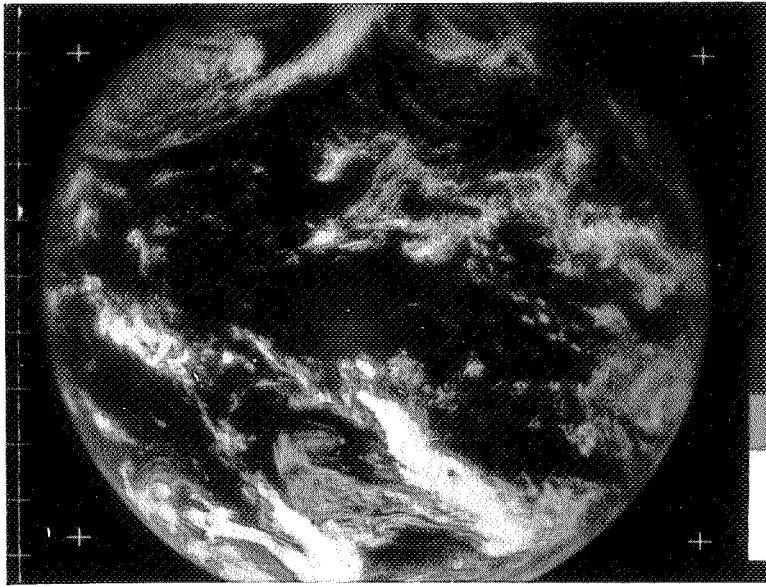
ATS-I 16 NOV 67 21 31 00 Z SEQ 2



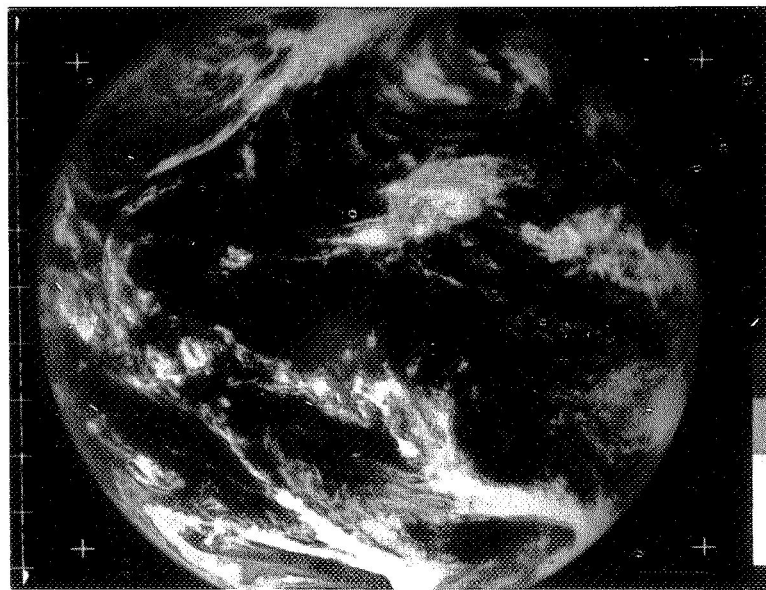
ATS-I 17 NOV 67 20 47 12 Z SEQ 3

18 NOV 67				SUBSATELLITE PT 149.97W 00.00S		TOTAL PICS 27	
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS	REMARKS		
01	13 22 23	00	4002				
02	13 45 01	00	4002				
03	14 09 41	00	4002				
04	14 33 17	00	4002				
05	14 56 55	00	4002				
06	15 20 35	00	4002				
07	15 44 11	00	4002				
08	16 07 50	00	4002				
09	16 31 29	10	4002	1114B 2240E 2230E 4200H	US MEX		
09	16 31 29	20	4000	2240A 4200A	MEX		
09	16 31 29	50	4002	2143E 4610B 2240B	PE		
09	16 31 29	60	4000	2240A 2140A	PE		
10	16 55 05	00	3002				
11	17 18 45	00	3002				
12	17 42 17	00	3002				
13	18 06 00	00	3002				
14	18 29 30	00	3002				
15	18 53 10	00	3002				
16	19 16 50	10	3002	2240G 2130G 2142I 4200H 1114H	US MEX		
16	19 16 50	20	4500	2240A 4200A	MEX		
16	19 16 50	50	1000	1113I 2143G 4610F			
16	19 16 50	60	4000	2240A			
16	19 16 50	80	4002	1113A 2142A			
17	19 40 35	00	3002				
18	20 04 06	00	3002				
19	20 27 43	00	7000		EE		
20	20 51 32	00	3000		EE		
21	21 15 03	00	3000		PE EE		
22	21 38 40	00	3000				
23	22 02 22	10	3000	2240G 2230G 2142I 1114B 3100H 4200H	US MEX		
23	22 02 22	20	4000	2240A 4200A	MEX		
23	22 02 22	40	4000	2230A 2140A			
23	22 02 22	50	1000	1114C 2143A 4610C			
23	22 02 22	60	4000	2240A			
23	22 02 22	80	4000	2240A 1113A 2140A 4200A	ASTR		
24	22 25 53	00	7000				
25	22 49 30	00	1001				
26	23 13 10	00	1001				
27	23 36 45	00	1001				

19 NOV 67				SUBSATELLITE PT 149.94W 00.01S		TOTAL PICS 43	
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS	REMARKS		
01	00 00 20	00	1001				
02	00 24 00	00	1001				
03	00 47 36	10	1001	2142I 2230B 2240G 4550D	HAW		
03	00 47 36	40	4000	2230A 2142A 3100A			
03	00 47 36	50	1001	2143E 1114C 4610C			
03	00 47 36	80	4000	2230A 2142A 4200A 4550A	ASTR NWGN		
04	01 23 11	00	4001		EE		
05	01 46 50	00	4001				
06	02 37 37	00	4001				
07	02 51 04	00	4001		EE		
08	03 14 45	00	4001		EE		
09	03 38 20	00	4001				
10	04 01 57	00	4001				
11	04 25 40	00	4001				
12	04 49 14	00	4001				
13	05 12 58	00	4001				
14	05 36 29	00	4001				
15	06 00 08	00	4001		EE		
16	06 23 46	00	4001		BAD NEG		
17	06 47 25	00	5001				
18	13 07 35	00	5002				
19	13 31 07	00	5502				
20	14 12 29	00	4002				
21	14 37 05	00	4002				
22	15 00 39	00	4002				
23	15 24 17	00	4002		EE SCRATCHES		
24	15 47 57	00	4002				
25	16 11 37	10	4002	2240E 3100E 2230E 4200H	US MEX		
25	16 11 37	20	4000	2240A 4200A 4550A	MEX CUBA		
25	16 11 37	50	1002	2143E 4610B			
25	16 11 37	60	4000	2145A 1113A			
26	16 35 10	00	4002				
27	16 58 48	00	4002				
28	17 22 24	00	4002				
29	17 46 07	00	3002				
30	18 09 40	00	3002				
31	18 33 25	00	3002				
32	18 56 55	10	3002	2240G 2230E 2142J 1114B 4200H 4550D	US MEX HAW		
32	18 56 55	20	4000	2240A 4550A 4200A	MEX CUBA		
32	18 56 55	50	1000	2143E 2142I 4610B			
32	18 56 55	60	4000	2140A 2240A			
32	18 56 55	80	4002	2140A 2230A			
33	19 20 34	00	3002				
34	19 44 12	00	3002		EE PE		
35	20 08 06	00	3002				
36	20 31 28	00	3002				
37	20 55 07	00	3502		EE PE		
38	21 18 46	00	3000		EE PE		
39	21 42 20	00	3000				
39	21 42 20	00	3000				
40	22 06 07	10	3000	2240G 2230E 2142J 1114B 4200H 4550D	US MEX HAW		
40	22 06 07	20	4000	2240A 4200A	MEX		
40	22 06 07	40	4000	3100A 2230A			
40	22 06 07	50	1000	2143A 4610C			
40	22 06 07	60	4000	2140A			
40	22 06 07	80	4000	2142A 1113A 2230A 4550A 4200A	ASTR NWGN		
41	22 29 40	00	3001				
42	22 53 18	00	3001		EE PE		
43	23 16 55	00	4001				



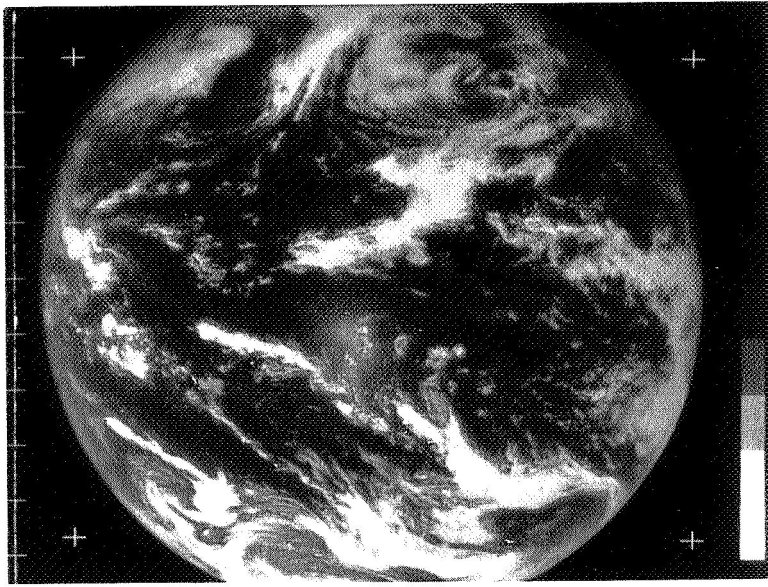
ATS-I 18 NOV 67 22 02 22 Z SEQ 23



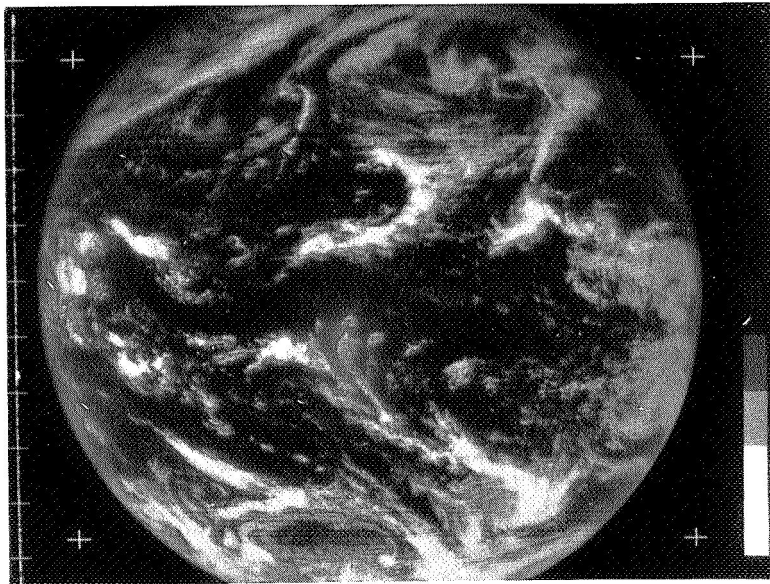
ATS-I 19 NOV 67 22 06 07 Z SEQ 40

20 NOV 67				SUBSATELLITE PT 149.91W 00.01S				TOTAL PICS 25	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	00 04 05	00							
02	00 27 44	10	4001	1125C	2142I	2230G	2240G 4550D	HAW	
02	00 27 44	40	4000	2230A	2140A				
02	00 27 44	50	1001	2143E	2145E	4610C			
02	00 27 44	60	5001	2140A					
02	00 27 44	80	4000	2142A	1113A	2230A	4550A 4200A	ASTR NZ NWGN	
03	00 51 20	00	4001						
04	01 14 59	00	4001					EE	
05	01 38 36	00	4001						
06	02 02 14	00	4001						
07	02 25 53	00	4001						
08	02 49 30	00	4001						
09	03 13 08	00	4001						
10	03 36 48	00	4001						
11	04 00 24	00	4001						
12	04 24 02	00	4001						
13	04 47 39	00	4001						
14	05 18 34	00	5001						
15	05 42 11	00	5001						
16	06 05 49	00	5001						
17	06 29 28	00	5001						
18	18 11 19	10	3002	1114B	2140H	2240G	2230E 4200H	US MEX	
18	18 11 19	20	4000	2240A	2140A	4200A		US MEX	
18	18 11 19	50	1002	2143E	2142I	4610B			
18	18 11 19	60	4000	2140A	2240A				
18	18 11 19	80	4002	2140A	4550A			NZ	
19	20 48 50	00	3002						
20	21 12 23	00	3000						
21	21 36 06	00	3000						
22	21 59 45	10	3000	2142I	1114H	2230G	2240G 3100A 4200H	US MEX EE	
22	21 59 45	20	4000	2240A	2140A	4200A		US MEX	
22	21 59 45	40	4000	2230A	2140A				
22	21 59 45	50	1000	2143G	3100I	4610C			
22	21 59 45	60	4000	2140A	2240A				
22	21 59 45	80	4000	2142A	1114A	4200A		ASTR	
23	22 23 20	00	3001						
24	22 46 58	00	3001						
25	23 10 37	00	1001						

21 NOV 67				SUBSATELLITE PT 149.87W 00.01S				TOTAL PICS 9	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 17 14	10	3002	2240G	2230E	1114H	2142F 4200H 4550D	US MEX	
01	18 17 14	20	4000	2240A	2140A	4200A		MEX CUBA	
01	18 17 14	50	1002	2145E	1114D	4610B			
01	18 17 14	60	4000	2140A	2240A				
01	18 17 14	80	4002	2140A	1114A				
02	18 40 52	00	4002						
03	20 50 00	00	4002					EE	
04	21 13 35	00	4002					EE	
05	21 37 14	00	4002					EE	
06	22 00 51	10	1000	2230G	2240G	2142A	1113C 3100A 4550A	MEX HAW	
06	22 00 51	20	4000	2240A					
06	22 00 51	40	4000	2142A	2230A				
06	22 00 51	50	1000	2145E	1113G	2230C	4610C		
06	22 00 51	60	4000	2140A	2240A				
06	22 00 51	80	4000	2142A	1114A	2230A	4200A 4550A	ASTR NZ NWGN	
07	22 24 28	00	4000						
08	22 48 06	00	4001					EE	
09	23 12 17	00	4001					PE EE	



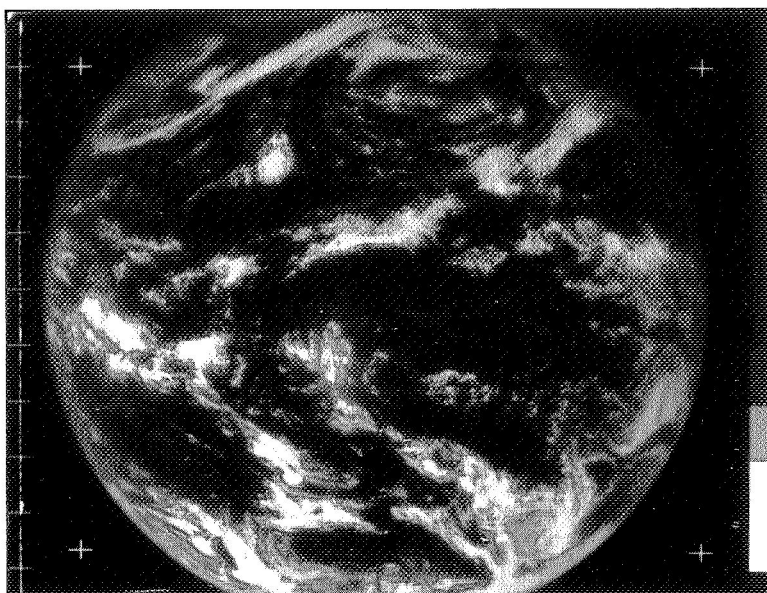
ATS-I 20 NOV 67 21 59 45 Z SEQ 22



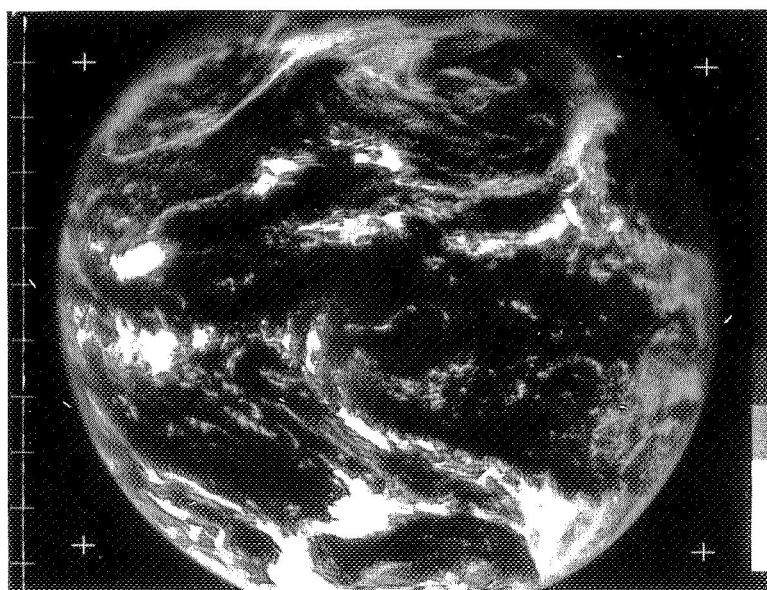
ATS-I 21 NOV 67 22 00 51 Z SEQ 6

22 NOV 67				SUBSATELLITE PT 149.84W 00.01S				TOTAL PICS 7	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 10 50	10	4002	2143B	2142E	2230E	2240G 4200H	US MEX	
01	18 10 50	20	4000	2240A	2140A	4200A		MEX	
01	18 10 50	50	1002	1113E	2145E	2230C	4610B		
01	18 10 50	60	4000	2140A	2240A				
01	18 10 50	80	5002	2140A					
02	20 53 06	00	3002						
03	21 16 43	00	3000						
04	21 40 18	00	3000					EE	
05	22 03 58	10	3000	2143B	2230G	2240G	3100A 4200H 4550D	US MEX HAW	
05	22 03 58	20	4000	2240A	2140A	4200A		MEX	
05	22 03 58	40	4000	2140A	2240A				
05	22 03 58	50	1000	2145E	1113E	2142A	2230C 4610C		
05	22 03 58	60	4000	2140A	2240A				
05	22 03 58	80	4000	2142A	2230A	4200A		ASTR	
06	22 27 36	00	3001						
07	22 51 14	00	1001						

23 NOV 67				SUBSATELLITE PT 149.80W 00.01S				TOTAL PICS 7	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 14 36	10	1002	2142M	2240G	2230E	4200H 4550D	US MEX HAW	
01	18 14 36	20	4000	2240A	2140A	4200A		MEX	
01	18 14 36	50	1002	1113E	2145E	3100A	4610B		
01	18 14 36	60	4000	1113A	2145A	2240A			
01	18 14 36	80	5002	2142A					
02	21 01 10	00	3002						
03	21 24 57	00	3000						
04	21 48 25	00	3000						
05	22 12 05	10	1000	2143C	2142A	2240G	2230G 3100A 4200H	US MEX	
05	22 12 05	20	4001	2240A	4200A			MEX	
05	22 12 05	40	4000	2230A	2142A				
05	22 12 05	50	1000	2145D	2143G	3100C	4610C		
05	22 12 05	60	4000	2140A	2240A				
05	22 12 05	80	4000	2142A	2230A	4200A	4550A	ASTR NZ	
06	22 35 41	00	1001						
07	22 59 19	00	1001						



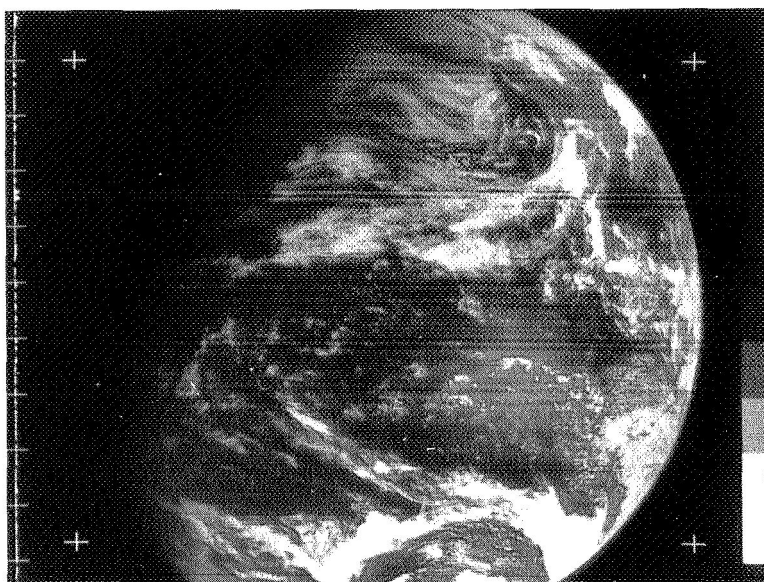
ATS-I 22 NOV 67 22 03 58 Z SEQ 5



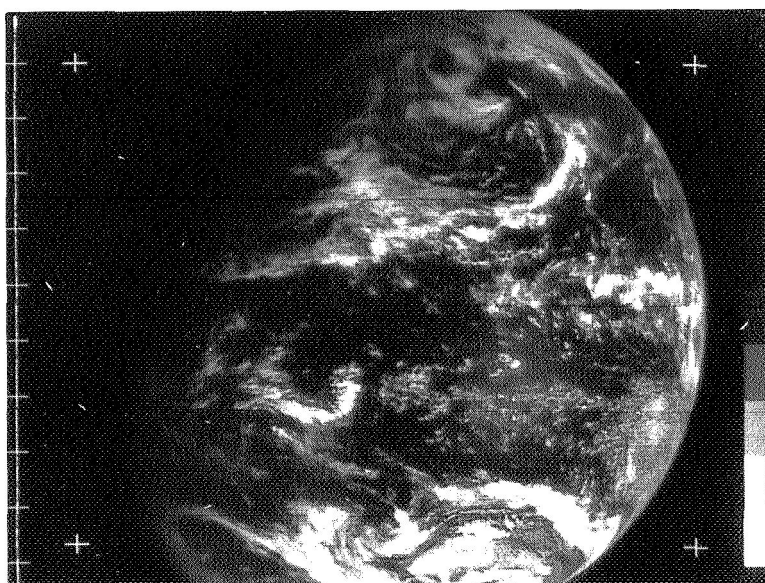
ATS-I 23 NOV 67 22 12 05 Z SEQ 5

24 NOV 67				SUBSATELLITE PT 149.76W 00.01S				TOTAL PICS	1
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 07 25	10	4002	2240G	2230E	2142F	4200H	EE US MEX	
01	18 07 25	20	4000	2240A	2230A	4200A		EE MEX	
01	18 07 25	50	1000	2143G	3100F	4610B		EE	
01	18 07 25	60	4000	2140A	2240A			EE	
01	18 07 25	80	5002	2140A				EE	

25 NOV 67				SUBSATELLITE PT 149.77W 00.01S				TOTAL PICS	1
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 11 50	10	3002	2240G	2230E	4200H	2140F	US MEX	
01	18 11 50	20	4000	2240A	4200A			MEX	
01	18 11 50	50	1002	2143E	2142D	2240F	4610B		
01	18 11 50	60	4000	2140A	2240A				
01	18 11 50	80	5002	2140A					



ATS-I 24 NOV 67 18 07 25 Z SEQ 1

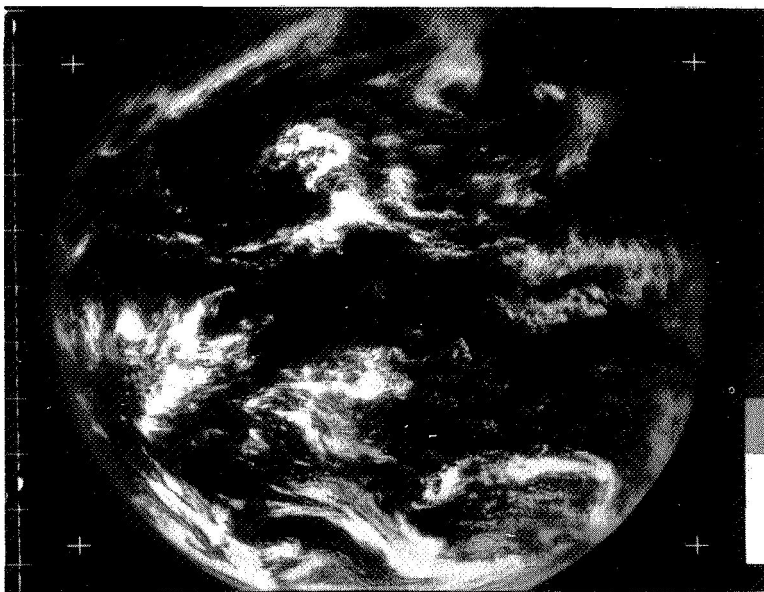


ATS-I 25 NOV 67 18 11 50 Z SEQ 1

26 NOV 67				SUBSATELLITE PT 149.78W 00.01S				TOTAL PICS 6	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	20 52 41	00	3002						
02	21 16 19	00	3002						
03	21 39 56	00	3002						
04	22 03 35	10	3000	2240G	2230G	2142A	3100A	4200H	US MEX
04	22 03 35	20	4000	2240A	4200A				MEX
04	22 03 35	40	4000	2140A	2230A				
04	22 03 35	50	1000	2143G	2142A	2230C	4610C		
04	22 03 35	60	4000	2140A	2240A				
04	22 03 35	80	4000	1113A	2140A	2230A	4200A	4550A	ASTR NWGN
05	22 27 12	00	3001						
06	22 50 50	00	3001						

27 NOV 67				SUBSATELLITE PT 149.78W 00.01S				TOTAL PICS 1	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	23 19 12	00	8000	8000A				6 MOON PICS	

28 NOVEMBER 1967 NO DATA AVAILABLE



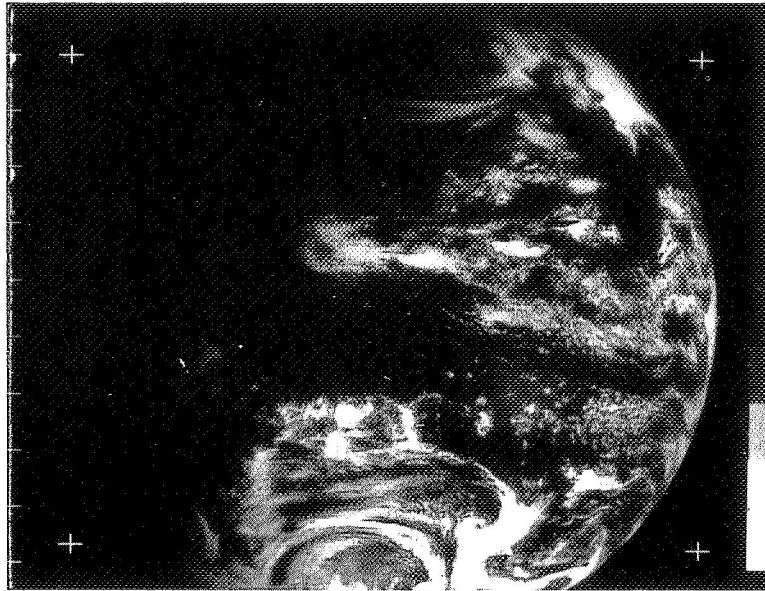
ATS-I 26 NOV 67 22 03 35 Z SEQ 4

27 NOVEMBER 1967 NO USABLE PICTURE

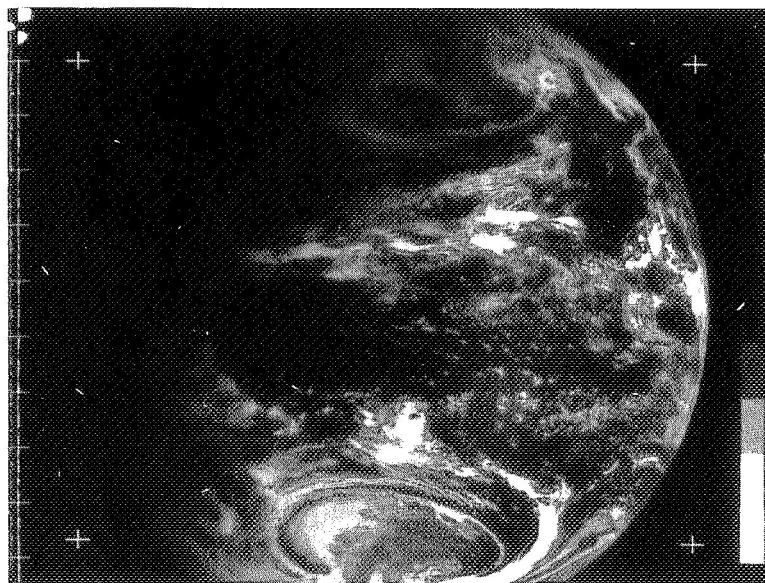
29 NOV 67										SUBSATELLITE PT 149.79W 00.02S		TOTAL PICS 1	
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS						REMARKS			
01	18 10 27	10	4002	2240G	2230D	3100H	2142B	4200H	US MEX EE				
01	18 10 27	20	4000	2240A	2140A	EE							
01	18 10 27	50	1002	2145E	2142A	3100A	2240B	4610B					
01	18 10 27	60	4000	2145A	2240A								
01	18 10 27	80	4002	2140A									

30 NOV 67										SUBSATELLITE PT 149.79W 00.03S		TOTAL PICS 1	
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS						REMARKS			
01	18 15 26	10	4002	2240G	2142J	4200H	2230E	US MEX					
01	18 15 26	20	4000	2230A	2240A	2142A							
01	18 15 26	50	4002	2230C	2240F	2142A							
01	18 15 26	60	4000	2140A	2240A								
01	18 15 26	80	4002	2140A									

1 DECEMBER 1967 NO DATA AVAILABLE
2 DECEMBER 1967 NO DATA AVAILABLE



ATS-I 29 NOV 67 18 10 27 Z SEQ 1

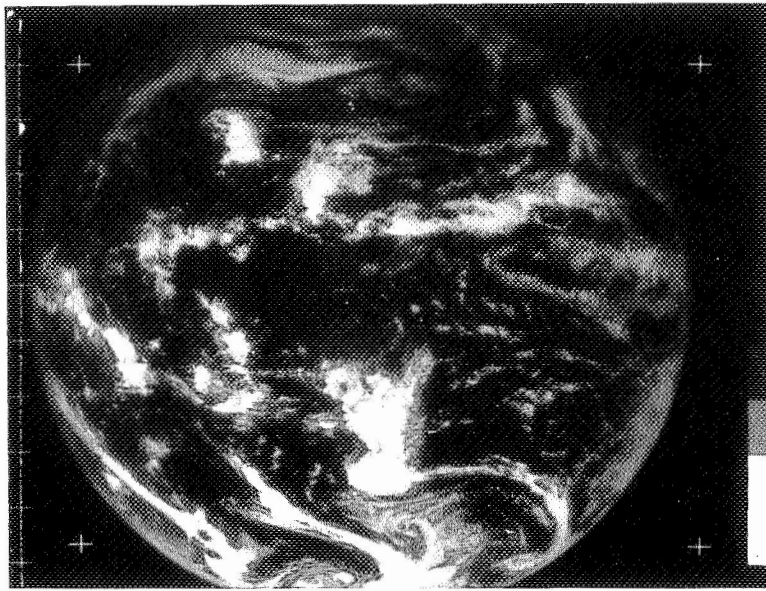


ATS-I 30 NOV 67 18 15 26 Z SEQ 1

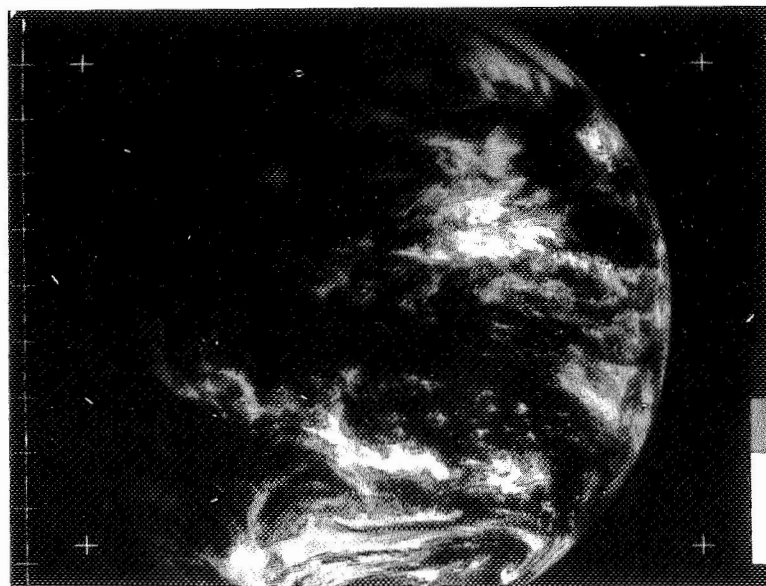
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
3 DEC 67 SUBSATELLITE PT 149.76W 00.17S TOTAL PICS 5					
01	18 11 44	10	4002	2240G 2230G 2142H 3100H 4200H	EE US MEX
01	18 11 44	20	4000	2142A 2144A 4200A 2240A	EE MEX
01	18 11 44	50	1002	2145E 2143C 2142I 4610B	
01	18 11 44	60	4000	2141A 2240A	
01	18 11 44	80	4002	2140A	
02	21 48 17	10	1000	2143C 2230G 2240G 3100A 4200H	US MEX
02	21 48 17	20	4000	2240A 4200A	MEX
02	21 48 17	40	4000	2140A 2230A	
02	21 48 17	50	1000	2145K 2230C 2240B 4610C	
02	21 48 17	60	4000	2145A 2240A	
02	21 48 17	80	4000	2145A 2230A 4200A	ASTR
03	22 11 56	00	7000		
04	22 35 33	00	4001		
05	22 59 15	00	4001		

4 THROUGH 6 DECEMBER 1967 NO DATA AVAILABLE

SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS	REMARKS
7 DEC 67 SUBSATELLITE PT 149.72W 00.18S TOTAL PICS 1					
01	18 24 53	10	4002	2230E 2240G 1114B 2142B 4200H	US MEX
01	18 24 53	20	4000	2145A 2240A 4200A	MEX
01	18 24 53	50	1000	1113E 2145E 2142G 2230C 4610B	
01	18 24 53	60	4000	2240A 2141A	
01	18 24 53	80	4002	2142A	



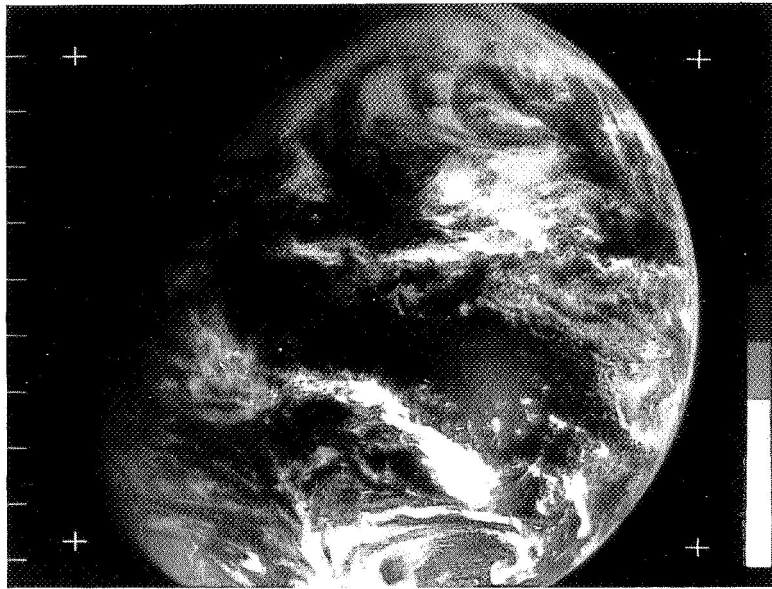
ATS-I 3 DEC 67 21 48 17 Z SEQ 2



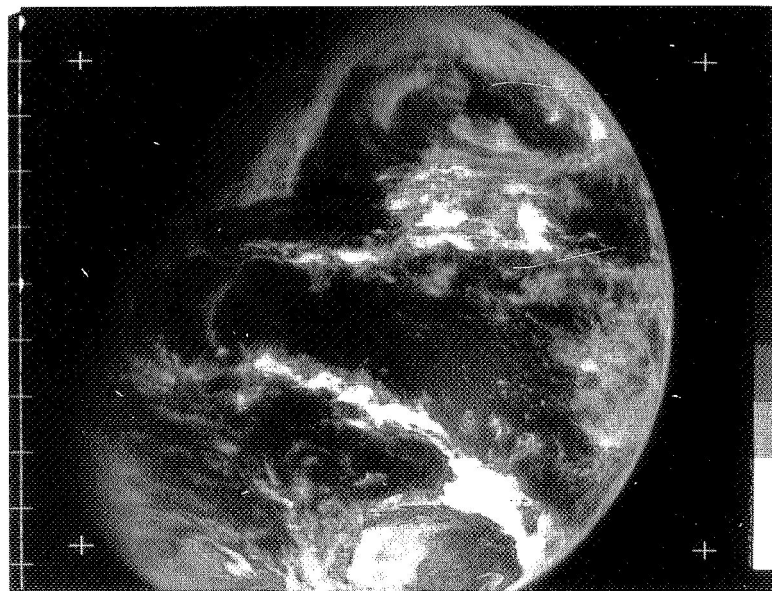
ATS-I 7 DEC 67 18 24 53 Z SEQ 1

		8 DEC 67		SUBSATELLITE PT 149.73W 00.04S				TOTAL PICS 1	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 30 03	10	4002	2230G	2240G	2142A	1114B	4200H	US MEX
01	18 30 03	20	4000	2240A	4200A				MEX
01	18 30 03	50	1000	1113E	2142A	4610B			
01	18 30 03	60	4000	2240A					
01	18 30 03	80	4002	3100A					

		9 DEC 67		SUBSATELLITE PT 149.72W 00.04S				TOTAL PICS 1	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 22 03	10	4002	2240G	2230E	2142A	4200H	US MEX	
01	18 22 03	20	4000	2240A	2140A	4200A			
01	18 22 03	50	1000	1113E	2143H	3100J	4610B		
01	18 22 03	60	4000	2141A	2240A				
01	18 22 03	80	4002	3100A					



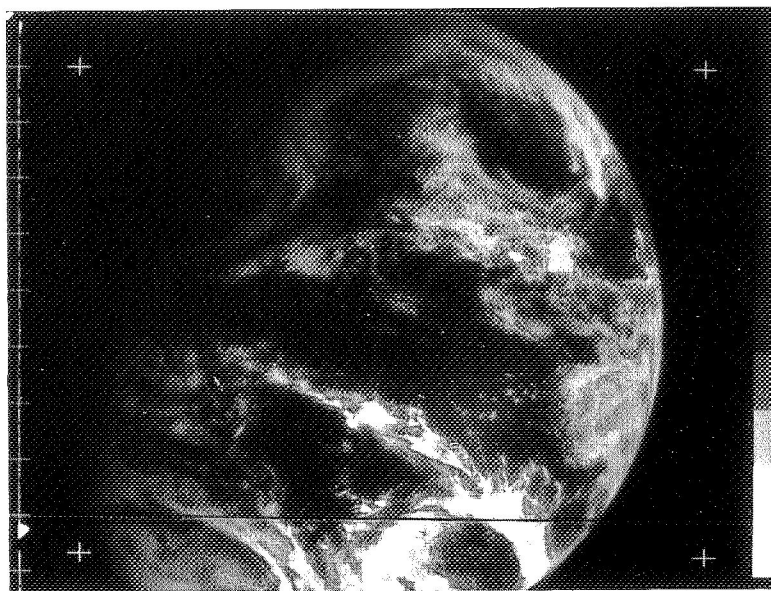
ATS-I 8 DEC 67 18 30 03 Z SEQ 1



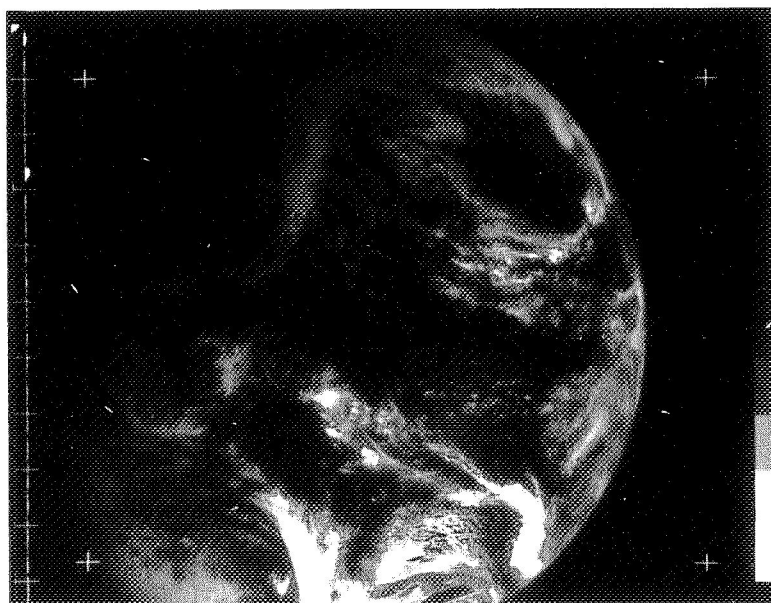
ATS-I 9 DEC 67 18 22 03 Z SEQ 1

				10 DEC 67	SUBSATELLITE PT 149.72W 00.05S				TOTAL PICS 3
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS					REMARKS
01	18 00 49	10	3002	2143I	2240G	2230G	3100E	4200H	US MEX
01	18 00 49	20	4000	2140A	2240A	4550A			CUBA
01	18 00 49	50	1000	2143H	2142A	2230C	2240B	4610B	EE
01	18 00 49	60	4000	2141A	2240A				EE
01	18 00 49	80	4002	2142A					EE
02	22 38 56	00	8000	8000A					11 MOON PICS
03	23 15 54	00	8000	8000A					11 MOON PICS

				11 DEC 67	SUBSATELLITE PT 149.72W 00.05S				TOTAL PICS 1
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS					REMARKS
01	18 06 42	10	3002	2143F	2240E	4200H	3100E		US MEX
01	18 06 42	20	4000	2240A	2140A				
01	18 06 42	50	1000	2142A	2143E	2230C	4610B		
01	18 06 42	60	4000	2141A	2240A				
01	18 06 42	80	5002	5000A					



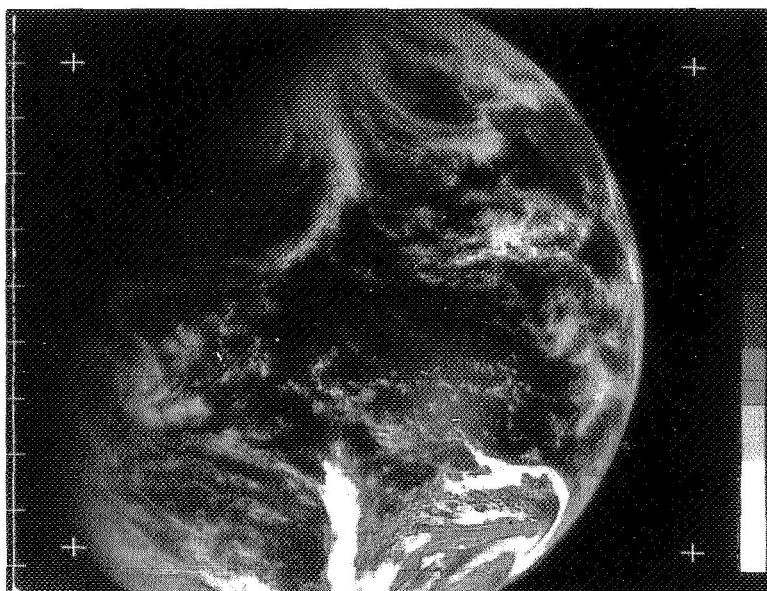
ATS-I 10 DEC 67 18 00 49 Z SEQ 1



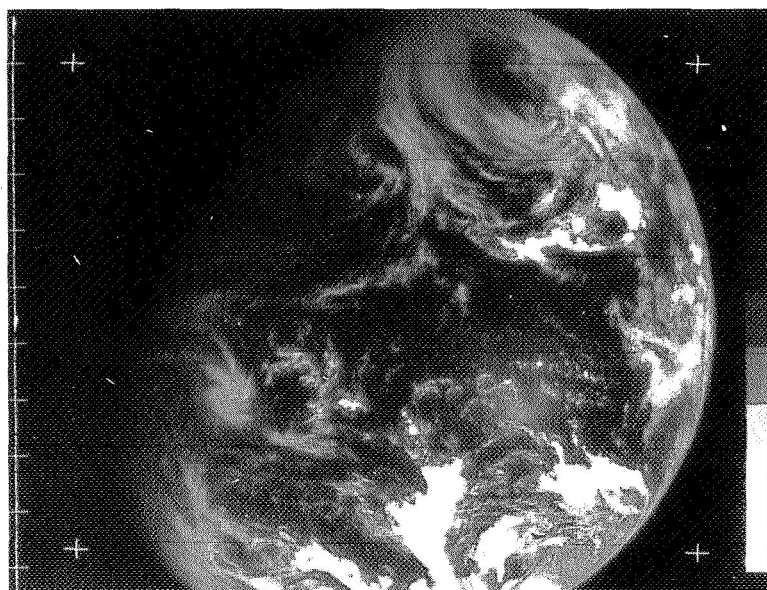
ATS-I 11 DEC 67 18 06 42 Z SEQ 1

			12 DEC 67	SUBSATELLITE PT 149.71W	00.06S	TOTAL PICS	1
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS		REMARKS	
01	18 08 24	10	3002	2143B	2142A 2240E 4200H	US MEX	
01	18 08 24	20	4000	2240A			
01	18 08 24	50	4000	2142A	2230C 3100A 4610B		
01	18 08 24	60	4000	1113A	2145A 2240A		
01	18 08 24	80	5002	5000A			

			13 DEC 67	SUBSATELLITE PT 149.70W	00.06S	TOTAL PICS	1
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS		REMARKS	
01	18 16 16	10	4002	1114E	2142A 2240G 4200B	US	
01	18 16 16	20	4000	2240A	2140A 4200A	YUCATAN	
01	18 16 16	50	1000	2142A	1220C 4610B		
01	18 16 16	60	4000	2240A	2140A		
01	18 16 16	80	5002	5000A			



ATS-I 12 DEC 67 18 08 24 Z SEQ 1



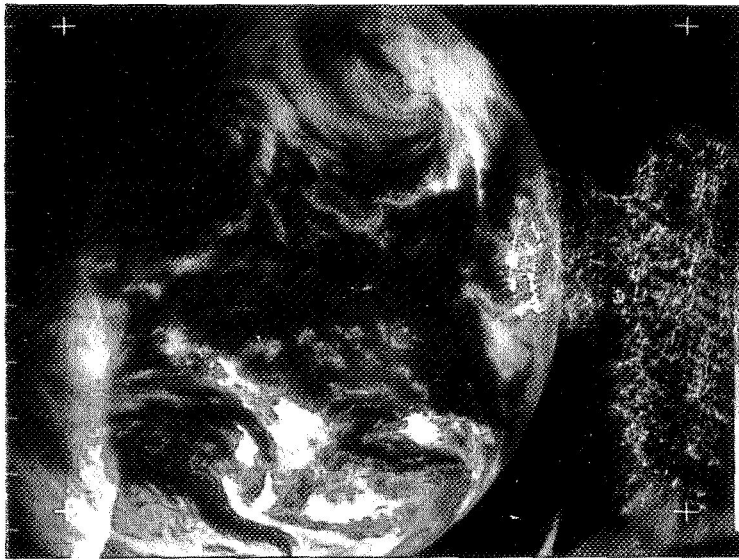
ATS-I 13 DEC 67 18 16 16 Z SEQ 1

14 DEC 67				SUBSATELLITE PT 149.71W 00.07S			TOTAL PICS 1
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS			REMARKS
01	18 08 25	10	4002	1114E	2140A	2240E	
01	18 08 25	20	4000	2240A	2140A		PR
01	18 08 25	50	4002	1113I	2145D	2230C 4610B	PR
01	18 08 25	60	4000	2140A	2240A		PR PE
01	18 08 25	80	5002	5000A			PR PE

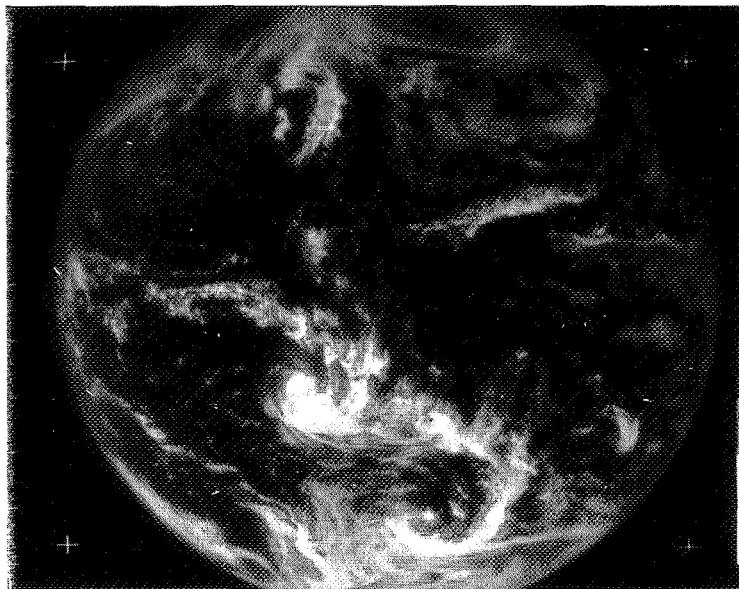
15 DECEMBER 1967 NO DATA AVAILABLE

16 DECEMBER 1967 NO DATA AVAILABLE

17 DEC 67				SUBSATELLITE PT 149.82W 00.08S			TOTAL PICS 6
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS			REMARKS
01	18 07 06	10	4002	1113B	2142A	2240E 2230D	
01	18 07 06	20	4000	2140A	2240A	4200A	MEX
01	18 07 06	50	1002	1221C	1113G	2145E 2140A 4610B	
01	18 07 06	60	4000	2140A	2240A		
01	18 07 06	80	5002	2142A			
02	21 41 05	00	4000				PE EE
03	22 08 35	10	4000	1113F	2145B	2142A 2240G 2230D	
03	22 08 35	20	4000	2140A	2240A		
03	22 08 35	40	4000	2230A	2142A		
03	22 08 35	50	1000	1221C	1113G	2145E 2142A 4610F	
03	22 08 35	60	4000	2240A	2140A		
03	22 08 35	80	4000	2142A	2240A	4200A	ASTR
04	22 32 14	00	4001				
05	22 55 50	00	4001				
06	23 19 25	00	4001				PR



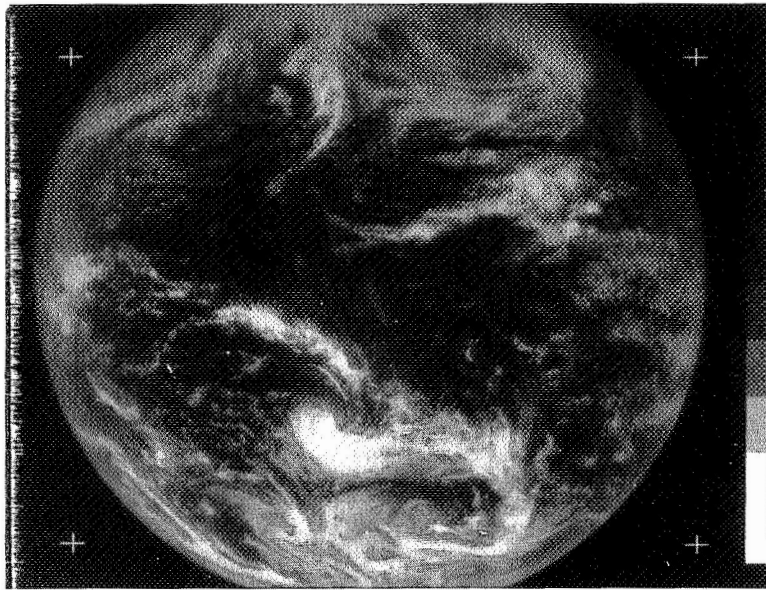
ATS-I 14 DEC 67 18 08 25 Z SEQ 1



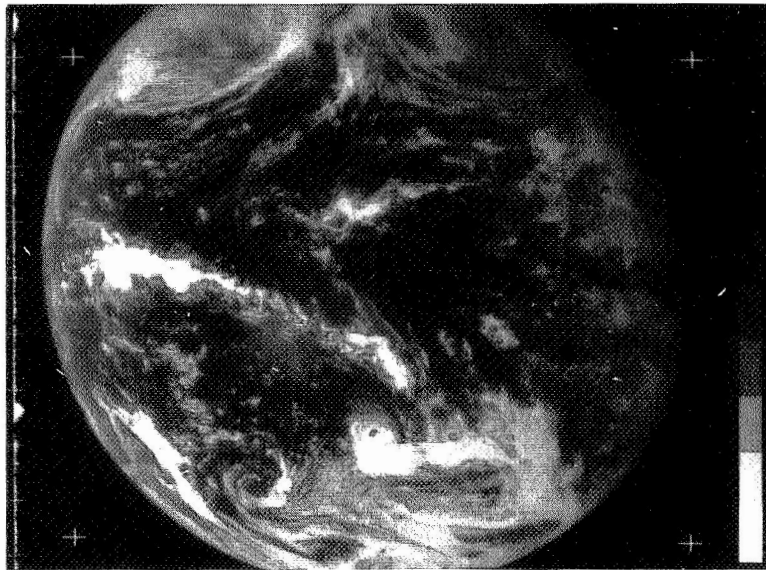
ATS-I 17 DEC 67 22 08 35 Z SEQ 3

18 DEC 67				SUBSATELLITE PT 149.86W 00.08S				TOTAL PICS 7	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 28 11	10	4002	2142A	2240G	2230E			
01	18 28 11	20	4000	2240A	2142A	4200A		MEX	
01	18 28 11	50	1000	1221C	1113G	2145E	4610B		
01	18 28 11	60	4000	2240A	2140A				
01	18 28 11	80	5002	2140A					
02	20 46 00	00	4002					PE SCRATCHES	
03	21 09 40	00	4000					PR	
04	21 33 19	00	4000					PE DISTORTED	
05	21 56 57	10	4000	2240G	2230E	1114C	2142A 4200E	MEX	
05	21 56 57	20	4000	2240A	2140A	4200A		MEX	
05	21 56 57	40	4000	2140A	2230A				
05	21 56 57	50	4000	1220C	2142A	1113G	2145E		
05	21 56 57	60	4000	2140A	2240A				
05	21 56 57	80	4000	2142A	2230A	4200A		ASTR	
06	22 20 35	00	4000						
07	22 44 11	00	4001						

19 DEC 67				SUBSATELLITE PT 149.89W 00.08S				TOTAL PICS 2	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	22 24 33	00	4001					EE	
02	23 40 30	10	4001	1113C	2145C	2240G	2230G 4550D	HAW	
02	23 40 30	40	4000	2145A	2240A				
02	23 40 30	50	1000	12211	2142A	1114G	4610C		
02	23 40 30	60	5001	2140A					
02	23 40 30	80	4000	2140A	4200A	4550A		ASTR NWGN	



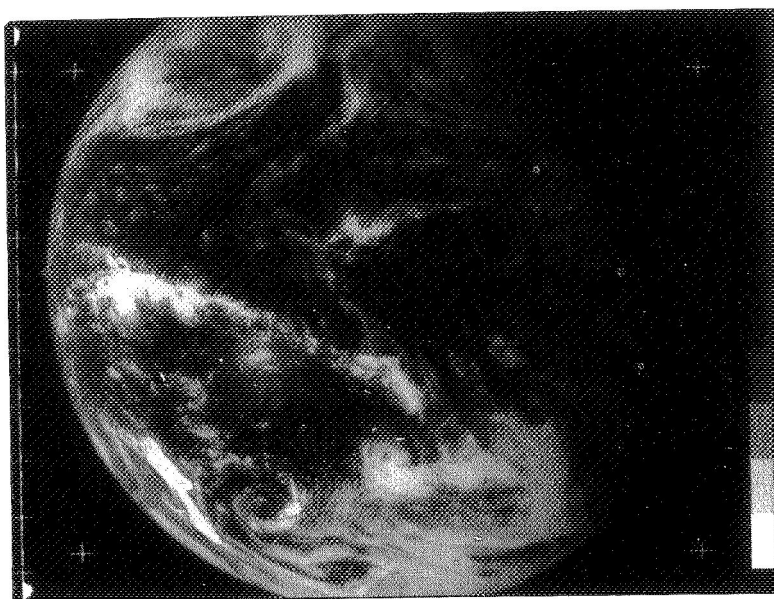
ATS-I 18 DEC 67 21 56 57 Z SEQ 5



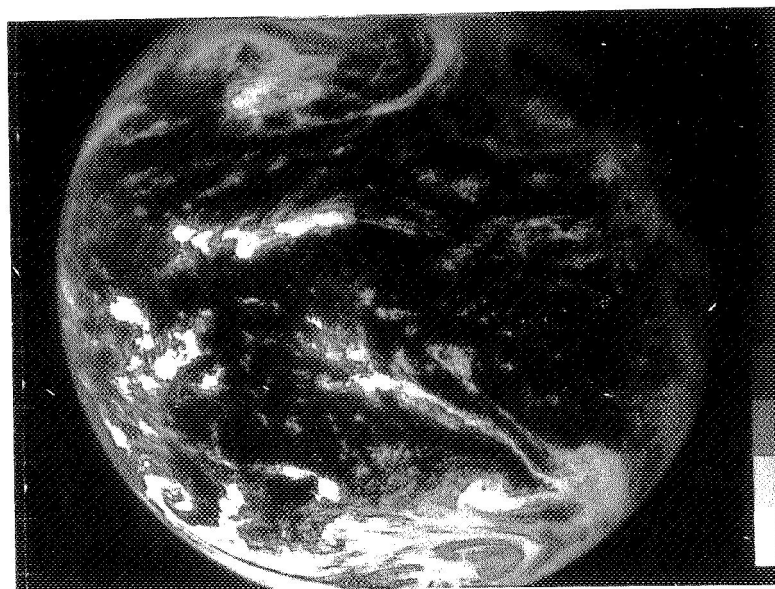
ATS-I 19 DEC 67 23 40 30 Z SEQ 2

20 DEC 67				SUBSATELLITE PT 149.94W 00.08S				TOTAL PICS 2	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	00 34 06	10	4001	1113C	2145C	2230G	4550D	HAW	
01	00 34 06	40	4000	2145A	2240A				
01	00 34 06	50	1001	1221I	1114D	2142K	4610C		
01	00 34 06	60	5001	5000A					
01	00 34 06	80	4000	2142A	4200A			ASTR	
02	18 15 58	10	4002	2143F	2240G	2230E	4200H	MEX	
02	18 15 58	20	4000	2240A	2140A	4200A		MEX PE	
02	18 15 58	50	1500	1113A	2143E	1114D	2240C 4610B		
02	18 15 58	60	4500	2140A	2240A			PE	
02	18 15 58	80	4502	2140A					

21 DEC 67				SUBSATELLITE PT 149.98W 00.09S				TOTAL PICS 1	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	23 02 27	10	3000	1114C	2142A	2144C	2240G 2230G 4550D	US MEX HAW	
01	23 02 27	20	4001	2140A	2240A				
01	23 02 27	40	4000	2240A	2140A				
01	23 02 27	50	1000	1113E	1114G	2142A	4610C		
01	23 02 27	60	4000	2140A	2240A				
01	23 02 27	80	4000	1114A	2230A	2142A	4200A 4550A	ASTR NWGN	



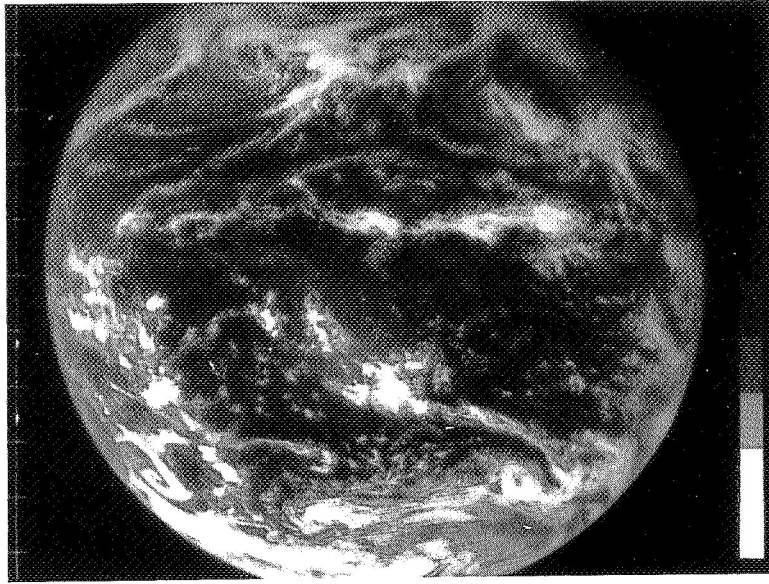
ATS-I 20 DEC 67 00 34 06 Z SEQ 1



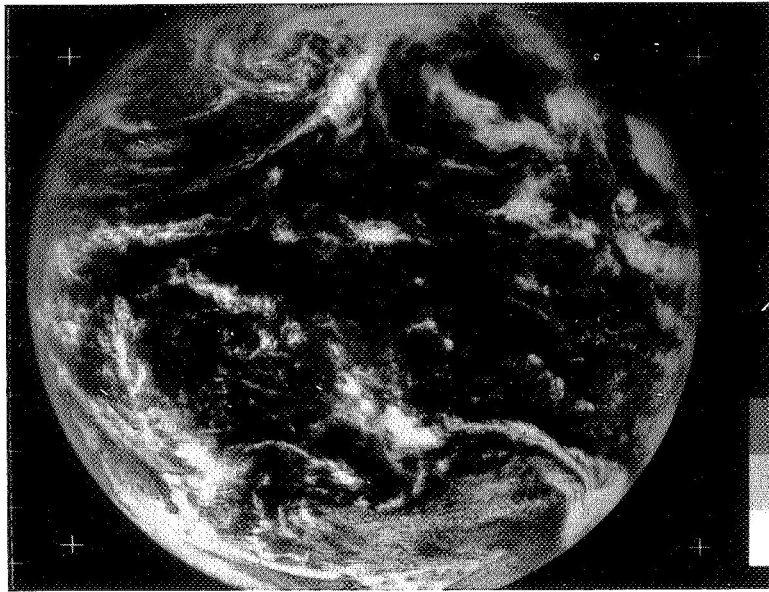
ATS-I 21 DEC 67 23 02 27 Z SEQ 1

22 DEC 67						SUBSATELLITE PT 150.02W 00.09S				TOTAL PICS 3	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS						REMARKS	
01	08 42 12	00	7000								
02	18 18 36	10	3002	2240G	2230E	2142A	3100A	4200H		US MEX	
02	18 18 36	20	4000	2140A	2240A	4200A				C AMERICA	
02	18 18 36	50	1002	1113E	2142A	3100A	4610B				
02	18 18 36	60	4000	1140A	2240A						
02	18 18 36	80	5002	5000A							
03	22 30 17	10	3000	2145C	1114C	2240G	3100A	2230E	4550D	US MEX HAW	
03	22 30 17	20	4000	2240A	2140A						
03	22 30 17	40	4000	2140A							
03	22 30 17	50	1000	1114G	2142A	3100A	4610C				
03	22 30 17	60	4000	2140A	2240A						
03	22 30 17	80	4000	1113A	2142A	2230A	4200A			ASTR	

23 DEC 67						SUBSATELLITE PT 150.06W 00.09S				TOTAL PICS 7	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS						REMARKS	
01	18 16 24	00	4002							UG DISTORTED	
02	18 40 01	00	4002							UG DISTORTED	
03	20 32 33	00	1002								
04	20 56 11	00	1002								
05	21 23 40	00	4000								
06	21 47 18	10	1000	2240G	2230E	1113E	2145F	2142A	4200H	US MEX	
06	21 47 18	20	4000	2240A	2140A						
06	21 47 18	40	4000	2240A	2140A						
06	21 47 18	50	1000	2142A	2143E	2240C	4610C				
06	21 47 18	60	4000	2140A	2240A						
06	21 47 18	80	4000	2142A	1114A	4200A				ASTR	
07	22 10 57	00	4000								



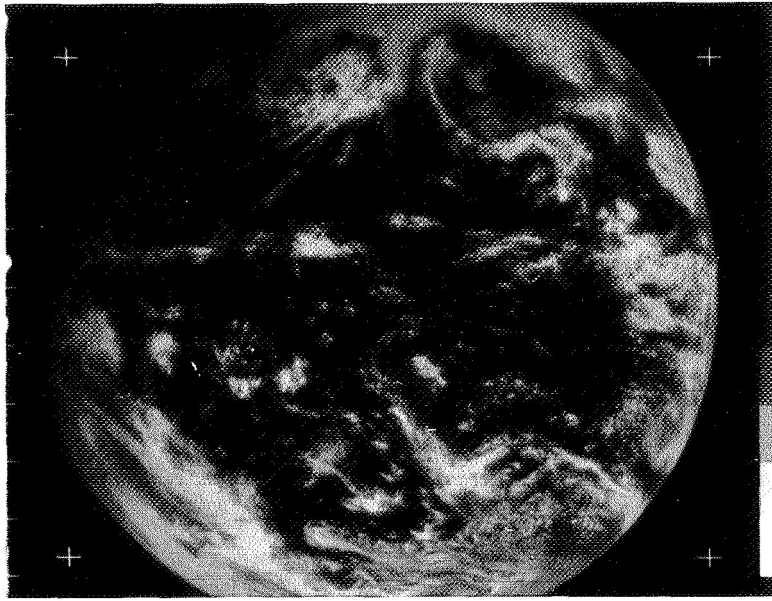
ATS-I 22 DEC 67 22 30 17 Z SEQ 3



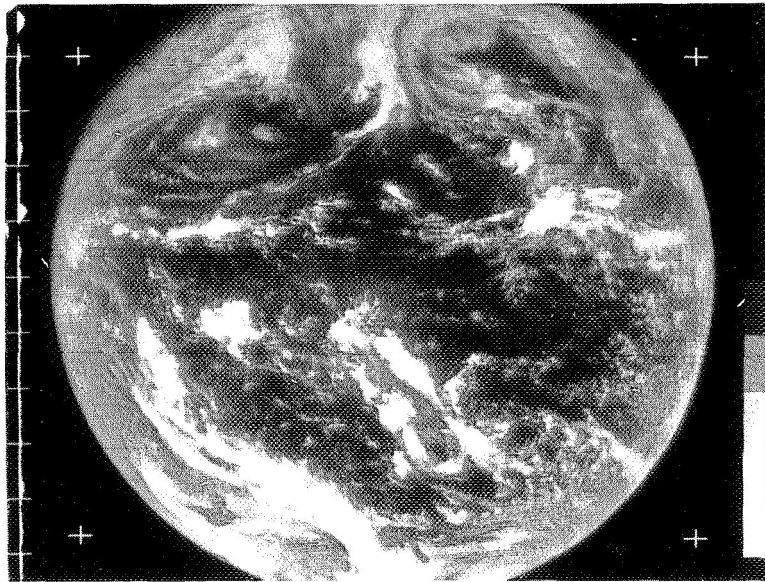
ATS-I 23 DEC 67 21 47 18 Z SEQ 6

24 DEC 67				SUBSATELLITE PT 150.10W 00.09S				TOTAL PICS 5		
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS					REMARKS	
01	08 13 30	00	8000	8000A					13 MOON PICS	
02	08 32 40	00	8000	8000A					19 MOON PICS	
03	19 30 55	00	4002							
04	19 54 33	00	4002							
05	20 18 14	10	4000	1113C	2143E	2142A	2240G	2230E	4550D	MEX
05	20 18 14	20	4000	2240A	2140A	4200A				W CST MEX
05	20 18 14	40	5002	5000A						
05	20 18 14	50	1000	2142A	3100A	4610F				
05	20 18 14	60	4000	2240A	2140A					
05	20 18 14	80	4000	2142A	2230A	4200A				ASTR

25 DEC 67				SUBSATELLITE PT 150.14W 00.10S				TOTAL PICS 1		
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS					REMARKS	
01	21 52 44	10	1000	2145C	1113F	2142A	2240G	2230E	4200H	US MEX
01	21 52 44	20	4000	2230A	2142A					
01	21 52 44	40	4000	2230A	2142A					
01	21 52 44	50	1000	2142A	2230C	2145D	4610F			
01	21 52 44	60	4000	2140A	2240A					
01	21 52 44	80	4000	2142A	4200A				ASTR	



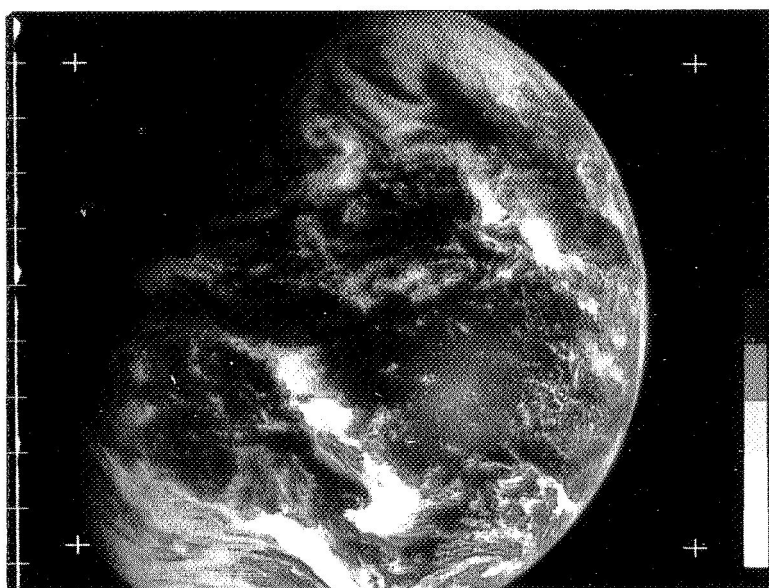
ATS-I 24 DEC 67 20 18 14 Z SEQ 5



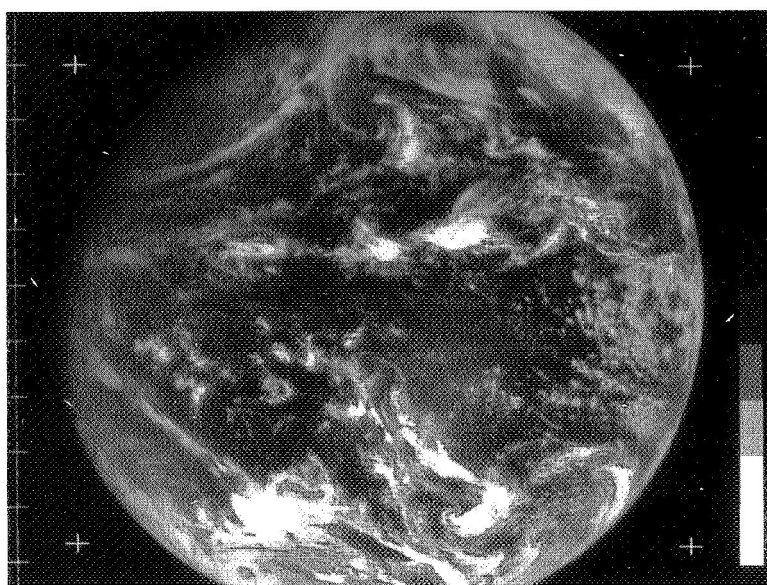
ATS-I 25 DEC 67 21 52 44 Z SEQ 1

		26 DEC 67	SUBSATELLITE PT 150.17W 00.10S				TOTAL PICS	1
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS			REMARKS	
01	18 09 47	10	3002	2240G	2230E	2142H 4200H	US MEX	
01	18 09 47	20	4000	2140A	2240A			
01	18 09 47	50	1000	2143A	2142G	4610B		
01	18 09 47	60	4000	2240A				
01	18 09 47	80	4002	2142A				

		27 DEC 67	SUBSATELLITE PT 150.21W 00.11S				TOTAL PICS	4
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS			REMARKS	
01	18 21 00	10	4002	2240G	2230E	2140F 3100A 4200H	US MEX	
01	18 21 00	20	4000	2140A	2240A	4200A	MEX	
01	18 21 00	50	1002	1113G	2142A	4610B		
01	18 21 00	60	4000	2140A	2240A			
01	18 21 00	80	4002	1114A	2142A			
02	19 40 42	00	4002					
03	20 04 20	00	3002					
04	20 28 57	00	3002					



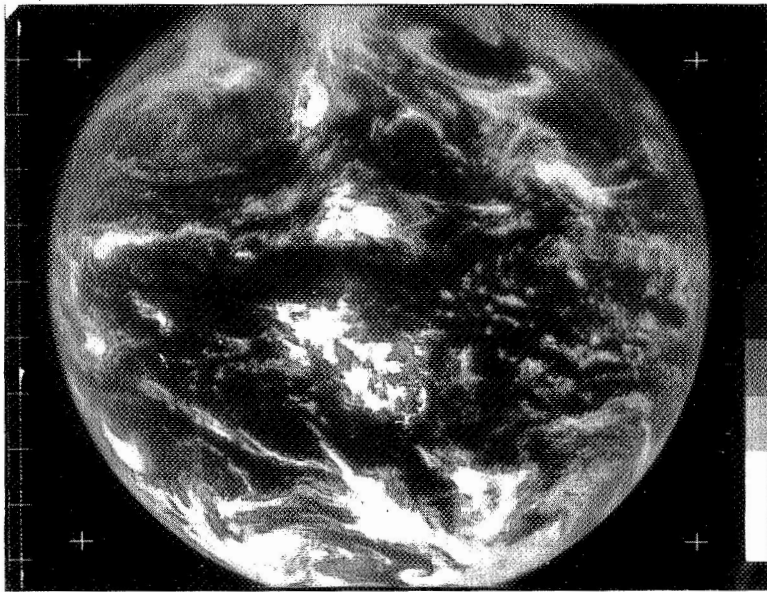
ATS-I 26 DEC 67 18 09 47 Z SEQ 1



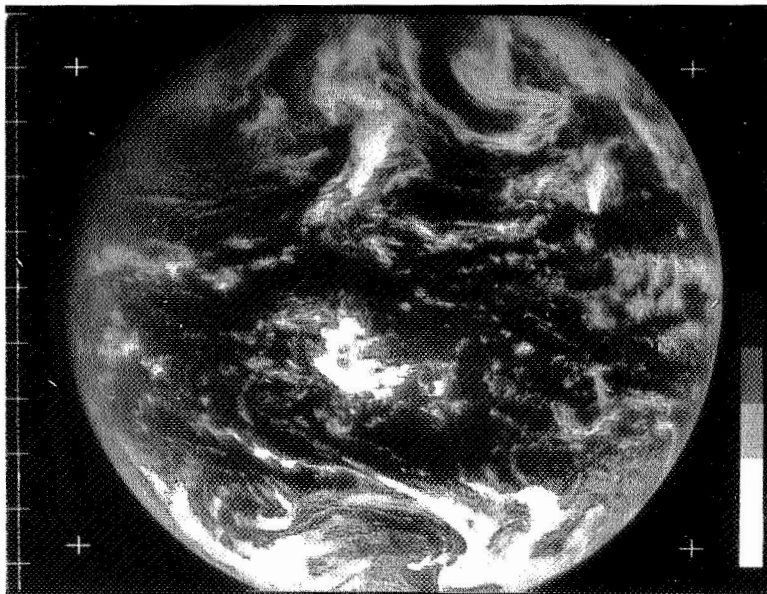
ATS-I 27 DEC 67 20 04 20 Z SEQ 3

		28 DEC 67	SUBSATELLITE PT 150.24W 00.125		TOTAL PICS 2	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS
01	21 38 35	10	3000	2240G 2230G 2142A 4200H 3100A		US MEX
01	21 38 35	20	4000	2240A 2140A 4200A		MEX
01	21 38 35	40	4000	2240A 2142A		
01	21 38 35	50	1000	2143G 2230C 3100D 4610C		EE
01	21 38 35	60	4000	2140A 2240A		EE
01	21 38 35	80	4000	2142A 2230A 4200A		EE ASTR
02	22 02 10	00	4000			

		29 DEC 67	SUBSATELLITE PT 150.27W 00.125		TOTAL PICS 4	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS		REMARKS
01	18 12 56	00	4002			EE
02	20 02 42	00	4002			
03	20 26 22	00	4002			
04	20 49 59	10	4000	2240G 2142A 2230G 3100D 1114I 4200H		US MEX
04	20 49 59	20	4000	2240A 2140A		
04	20 49 59	40	4000	2240A 2142A		
04	20 49 59	50	1000	1113G 2145E 2230C 3100A 4610C		
04	20 49 59	60	4000	2140A 2240A		
04	20 49 59	80	4000	2142A 4200A		ASTR



ATS-I 28 DEC 67 22 02 10 Z SEQ 2

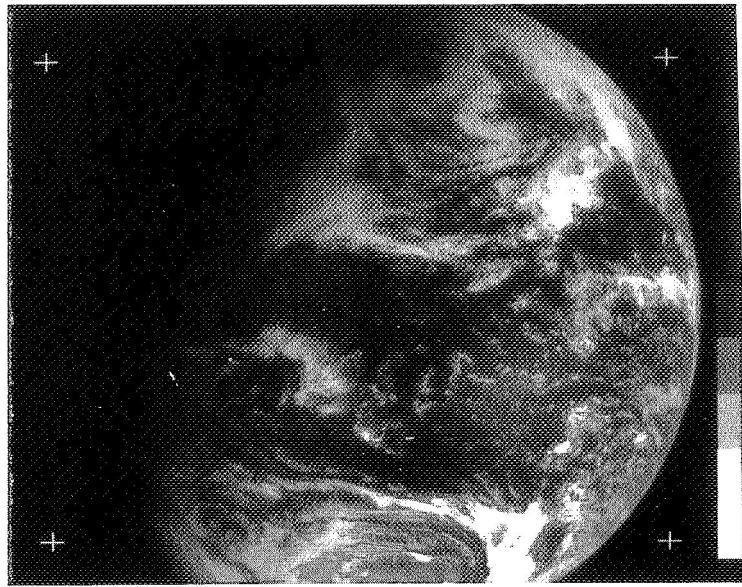


ATS-I 29 DEC 67 20 49 59 Z SEQ 4

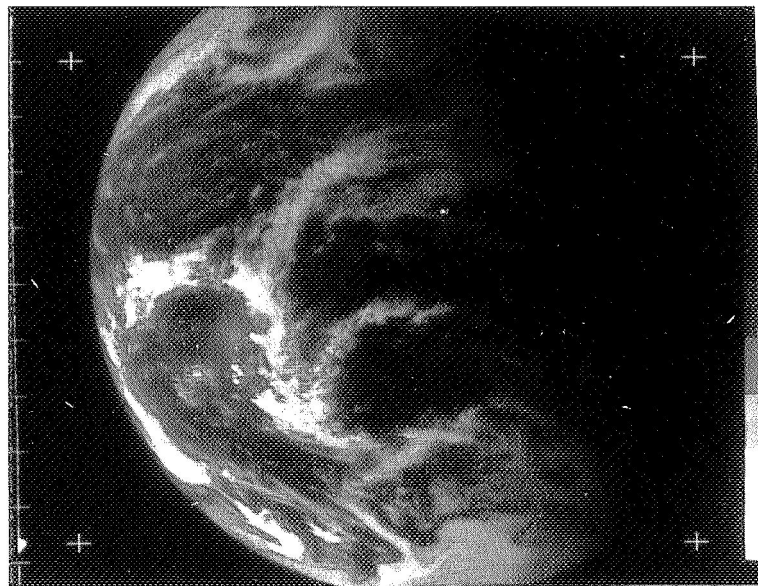
30 DEC 67				SUBSATELLITE PT 150.29W 00.13S				TOTAL PICS 1	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 03 25	10	4002	2240G	2230G	2140A	4200A	US MEX	
01	18 03 25	20	4000	2240A	2140A				
01	18 03 25	50	4002	2142A	2230C	4610B			
01	18 03 25	60	4000	2140A					
01	18 03 25	80	5002	5000A					

31 DECEMBER 1967 NO DATA AVAILABLE
1 THROUGH 3 JANUARY 1968 NO DATA AVAILABLE

4 JAN 68				SUBSATELLITE PT 150.40W 00.14S				TOTAL PICS 12	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	02 15 24	10	4001	2240G	21421	1114C	2141C		
01	02 15 24	40	4000	2142A					
01	02 15 24	50	4001	21421	1113D	2230C	2240C 4610D		
01	02 15 24	80	4000	2240A	1114A	2240A	4550A 4200A	ASTR NZ	
02	02 39 01	00	4001						
03	03 02 40	00	4001						
04	03 26 21	00	4001						
05	03 49 58	00	4001						
06	04 13 37	00	4001						
07	04 37 15	00	4001						
08	05 00 52	00	4001						
09	05 24 32	00	4001						
10	05 48 10	00	4001						
11	06 11 47	00	4001						
12	06 35 24	00	5001						



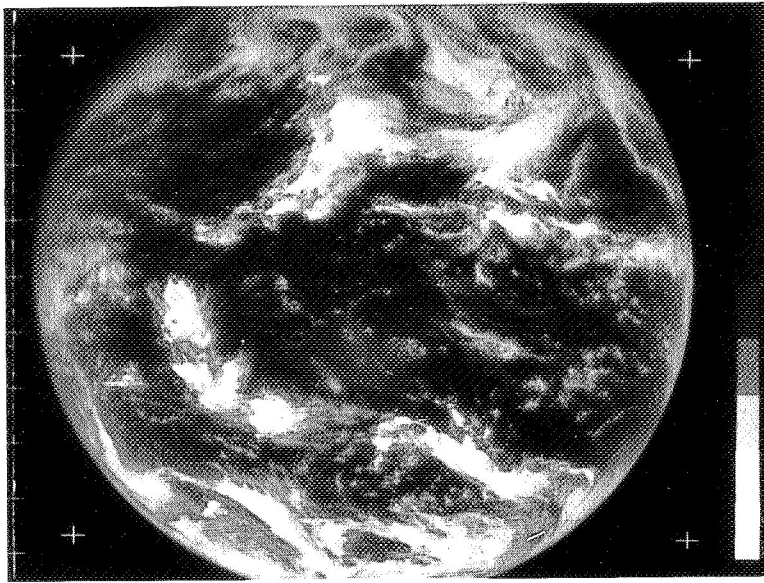
ATS-I 30 DEC 67 18 03 25 Z SEQ 1



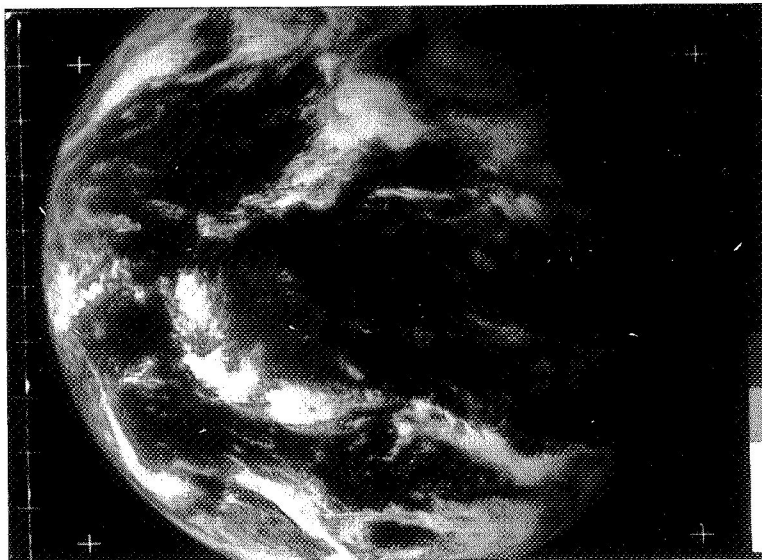
ATS-I 4 JAN 68 02 15 24 Z SEQ 1

5 JAN 68				SUBSATELLITE PT 150.42W 00.15S				TOTAL PICS 25	
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS				REMARKS	
01	13 43 24	00	4002						
02	14 07 00	00	4002						
03	14 30 40	00	4002						
04	14 54 22	00	4002						
05	15 18 00	00	4002						
06	15 41 38	00	4002						
07	16 05 18	00	4002						
08	16 28 56	00	4002						
09	17 36 58	00	4002						
10	18 00 38	10	4002	2240G	2142M	2143G	2230E 4200H 4550D	US MEX HAW	
10	18 00 38	20	4000	2240A	2140A	4200A	4550A	MEX CUBA	
10	18 00 38	50	4002	2142A	2240B	4610B			
10	18 00 38	60	4000	2140A					
10	18 00 38	80	5002	5000A					
11	18 24 10	00	4002						
12	18 47 53	00	4002						
13	19 11 35	00	4002						
14	19 35 13	00	4002						
15	19 58 50	00	1002						
16	20 22 28	00	1002						
17	20 46 10	00	1002						
18	21 09 50	00	1002						
19	21 33 24	10	3000	2143G	1114F	2240G	4200H	US MEX	
19	21 33 24	20	4000	2140A	2240A	4200A		MEX	
19	21 33 24	40	4000	2142A	2240A				
19	21 33 24	50	1000	2142A	2230C	3100A	4610C 1113E		
19	21 33 24	60	4000	2140A					
19	21 33 24	80	4000	2142A	2240A	4200A		ASTR	
20	21 57 05	00	3000						
21	22 20 44	00	3000						
22	22 44 22	00	3000						
23	23 08 00	00	4001						
24	23 31 38	00	4001						
25	23 55 15	00	4001						

6 JAN 68				SUBSATELLITE PT 150.44W 00.15S				TOTAL PICS 17	
SEQ	START	ZONE	PICO	DATA CONTENT DESCRIPTORS				REMARKS	
01	00 19 51	10	4001	2143G	1114F	2142H	2240G 3100G		
01	00 19 51	40	4000	2143A	2240A				
01	00 19 51	50	4001	2142A	2230C	4610C	3100B		
01	00 19 51	60	5001	5000A					
01	00 19 51	80	4000	2140A	2240A	4200A		ASTR	
02	00 42 32	00	4001						
03	01 06 11	00	4001						
04	01 29 50	00	4001						
05	01 53 27	00	4001						
06	02 17 20	00	4001						
07	02 40 48	00	4001						
08	03 04 32	00	4001						
09	03 28 07	00	4001					SCRATCHED NEG	
10	03 51 43	00	4001						
11	04 15 20	00	4001						
12	04 39 00	00	4001						
13	05 02 41	00	4001						
14	05 26 17	00	4001						
15	05 49 50	00	4001						
16	06 13 20	00	5001						
17	06 37 18	00	5001						



ATS-I 5 JAN 68 21 33 24 Z SEQ 19



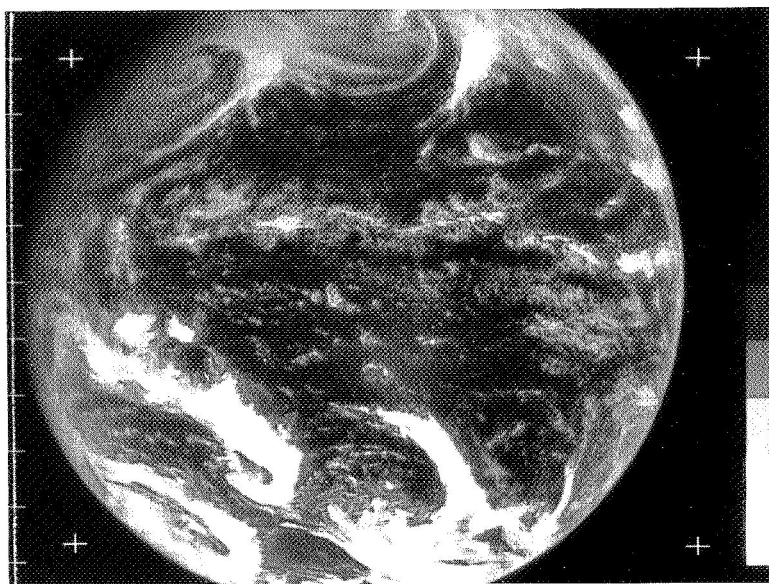
ATS-I 6 JAN 68 00 19 51 Z SEQ 1

7 THROUGH 13 JANUARY 1968 NO DATA AVAILABLE

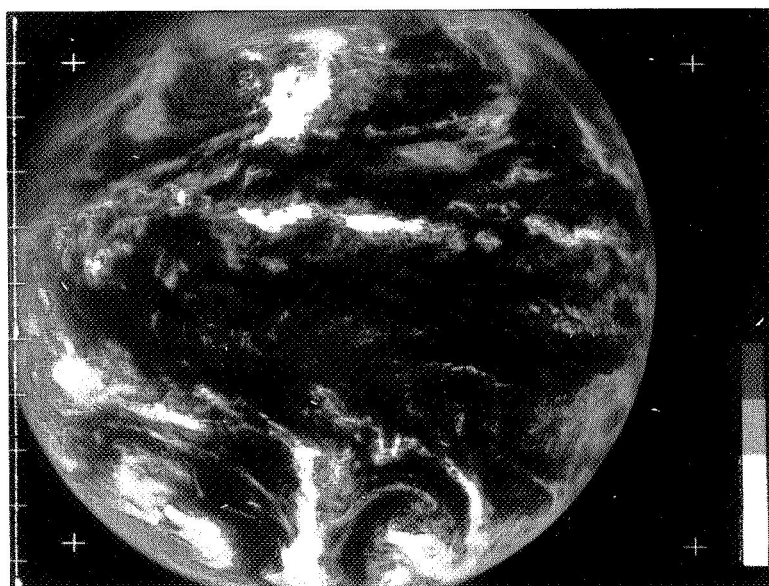
14 JAN 68				SUBSATELLITE PT 150.50W 00.19S				TOTAL PICS 4		
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS		
01	19 28 42	00	3002							
02	19 52 20	00	3002					PE		
03	20 15 50	00	3002							
04	20 39 37	10	3000	1114F	2145C	2240G	2142A	4200H	4550D	US MEX HAW
04	20 39 37	20	4000	2240A	2140A	4200A				US MEX
04	20 39 37	40	4002	2240A	2142A					
04	20 39 37	50	1000	1113G	2145E	2142A	4610F			
04	20 39 37	60	4000	2142A	2240A					
04	20 39 37	80	4000	1113A	2142A	2230A	4200A	4550A	ASTR NZ	
04	20 39 37	90	5000	5000A						

15 JANUARY 1968 NO DATA AVAILABLE

16 JAN 68				SUBSATELLITE PT 150.50W 00.20S				TOTAL PICS 4	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	19 46 48	00	3002					EE OFF SET	
02	20 10 29	00	3002					EE OFF SET	
03	20 34 07	00	3002					EE OFF SET	
04	20 57 49	10	3000	1114I	2240G	2142A	2143C	4200H	US MEX PR
04	20 57 49	20	4000	2140A	4200A				MEX PR
04	20 57 49	40	4002	2142A	2240A				PR
04	20 57 49	50	1000	1113E	2143E	2142I	2240B	1113D	
04	20 57 49	60	4000	2140A	2240A				
04	20 57 49	80	4000	2142A					PR



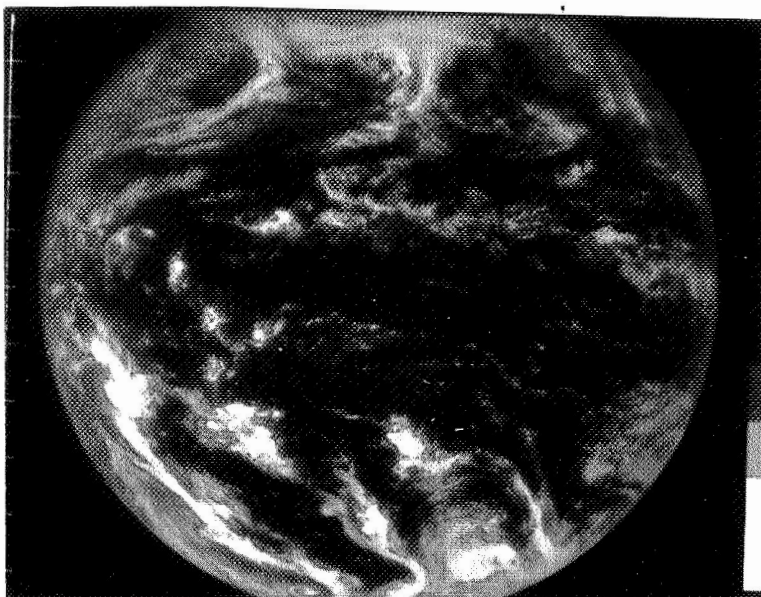
ATS-I 14 JAN 68 20 39 37 Z SEQ 4



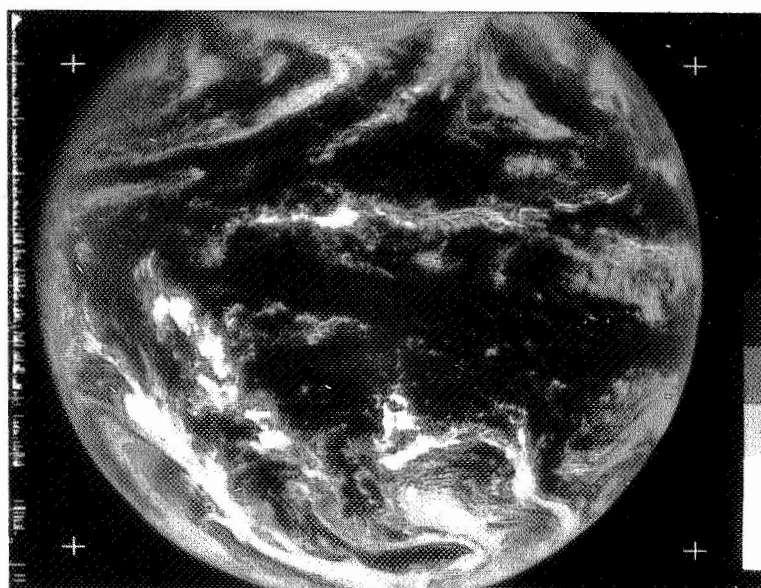
ATS-I 16 JAN 68 20 57 49 Z SEQ 4

17 JAN 68				SUBSATELLITE PT 150.50W 00.21S				TOTAL PICS 4	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 26 57	10	3002	2240G	1113F	2145B	4200H	4610E	US MEX
01	18 26 57	20	4000	2240A	2140A				
01	18 26 57	50	1002	1114E	2142A	3100B	4610B		
01	18 26 57	60	4000	3100A	2140A				
01	18 26 57	80	4002	2142A					
02	21 30 00	00	3000						
03	21 53 36	10	3000	2143B	2142H	2240G	4550D	4200H	US MEX HAW
03	21 53 36	20	4000	2142A	2240A	4200A			MEX
03	21 53 36	40	4000	2142A					
03	21 53 36	50	1000	1113G	2142A	2240C	4610C		
03	21 53 36	60	4000	2140A					
03	21 53 36	80	1000	1113A	2142A				
03	21 53 36	90	5000	5000A					
04	22 17 15	00	3000						

18 JAN 68				SUBSATELLITE PT 150.50W 00.21S				TOTAL PICS 6	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	20 07 15	00	3002						
02	20 30 52	00	3002						
03	20 54 33	00	3002						
04	21 18 11	00	3000						
05	21 41 51	10	3000	2240G	2143F	1113B	4200H	4550D	US MEX HAW
05	21 41 51	20	4000	2240A	1113A	2145A	4200A		MEX
05	21 41 51	40	4000	2230A	2140A				
05	21 41 51	50	1000	2143G	1113E	2142A	4610C		
05	21 41 51	60	4000	2140A	2240A				
05	21 41 51	80	4000	1113A	2142A	4200A	2230A		ASTR
05	21 41 51	90	5000	5000A					
06	22 05 27	00	7000						



ATS-I 17 JAN 68 21 53 36 Z SEQ 3



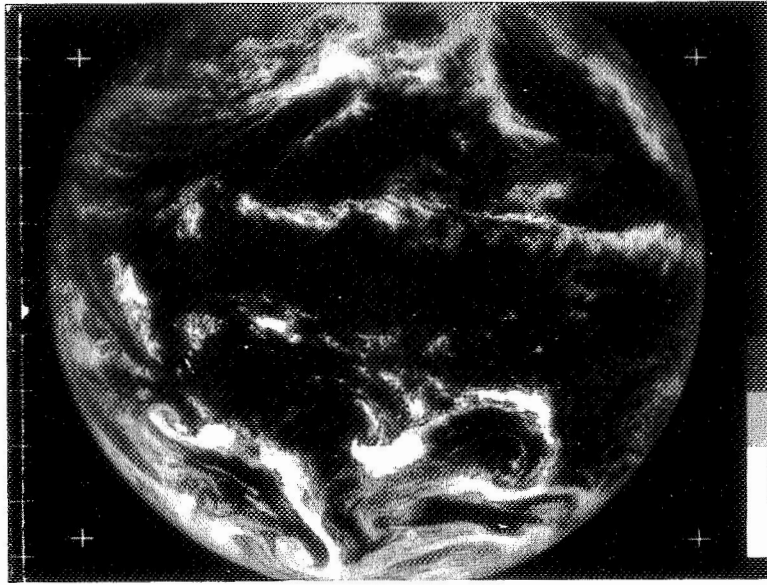
ATS-I 18 JAN 68 21 41 51 Z SEQ 5

19 JANUARY 1968 NO DATA AVAILABLE

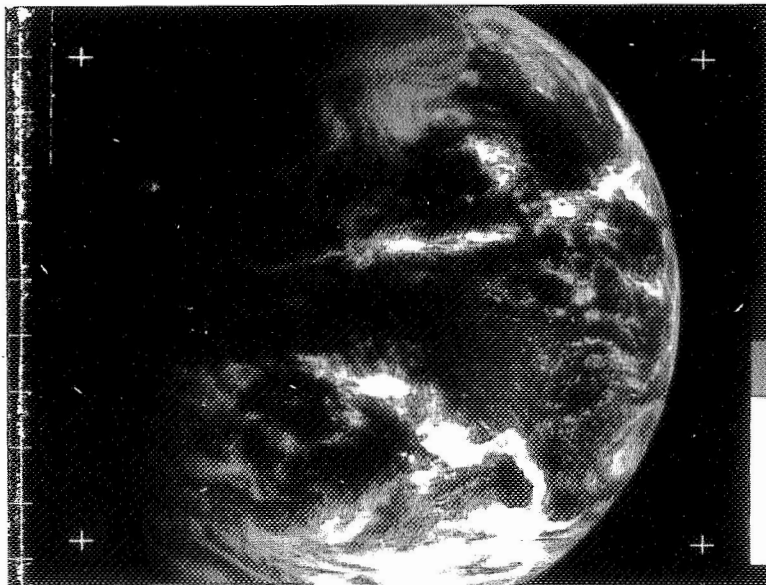
20 JAN 68				SUBSATELLITE PT 150.49W 00.22S				TOTAL PICS 4	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	20 27 22	00	3002						
02	20 51 00	00	3002						
03	21 14 35	00	3002						
04	21 38 16	10	3000	2240G	2142A	2143C	1114C	4550D 4200H	US MEX HAW
04	21 38 16	20	4000	2142A	2240A				
04	21 38 16	40	4000	2142A					
04	21 38 16	50	1000	1114A	2145G	2143C	1113D		
04	21 38 16	60	4000	2140A					
04	21 38 16	80	4000	1114A	2142A	4200A	4550A	2230A	ASTR NZ
04	21 38 16	90	5000	5000A					

21 THROUGH 23 JANUARY 1968 NO DATA AVAILABLE

24 JAN 68				SUBSATELLITE PT 150.45W 00.24S				TOTAL PICS 1	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 06 30	10	3002	2240G	2142A	4200H		US MEX EE	
01	18 06 30	20	4000	2240A	2142A	EE			
01	18 06 30	50	1002	2142A	2143E	EE			
01	18 06 30	60	4000	2140A	EE				
01	18 06 30	80	4002	2142A	EE				



ATS-I 20 JAN 68 21 38 16 Z SEQ 4



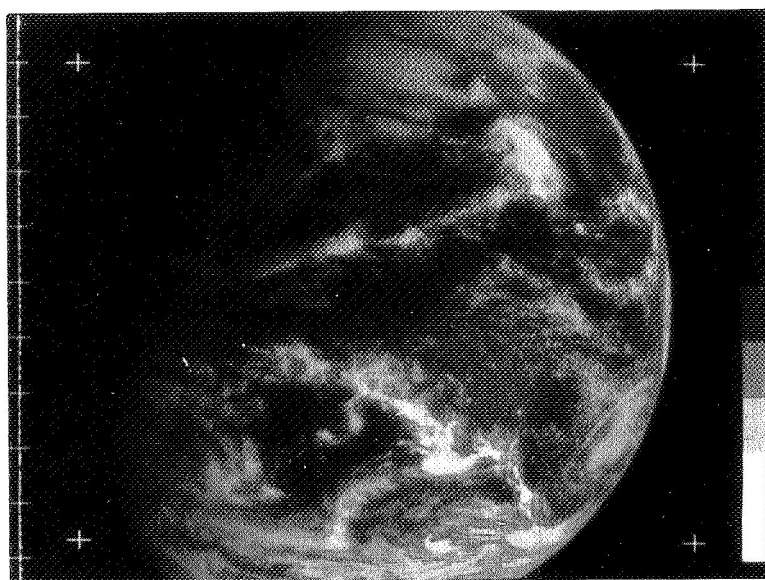
ATS-I 24 JAN 68 18 06 30 Z SEQ 1

25 JAN 68				SUBSATELLITE PT 150.45W 00.25S				TOTAL PICS 3	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 14 13	00	4002						
02	18 37 49	00	4002						
03	19 01 30	10	4002	2240G	2230E	2142A	3100D 4200H	US MEX	
03	19 01 30	20	4000	2142A	2240A	4200A		US MEX	
03	19 01 30	50	4000	2143B	2143D	2142A	4610B		
03	19 01 30	60	4000	2142A					
03	19 01 30	80	4002	2142A					

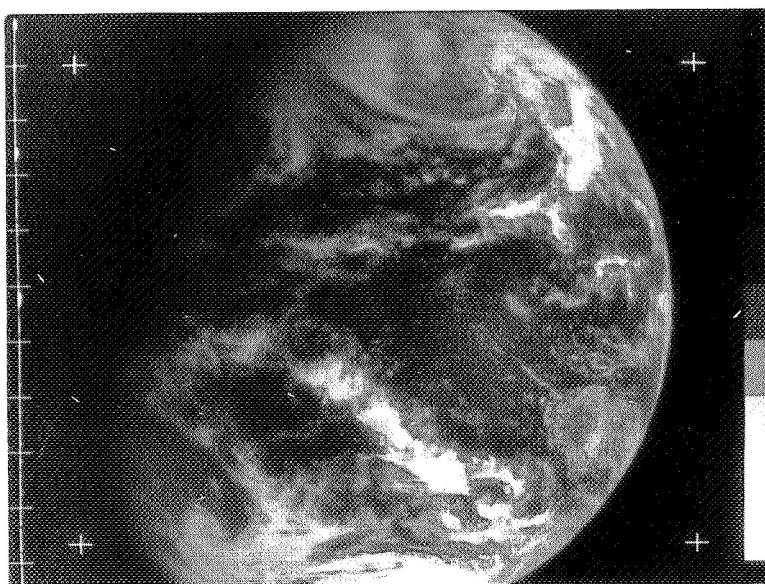
26 JANUARY 1968 NO DATA AVAILABLE

27 JAN 68				SUBSATELLITE PT 150.44W 00.26S				TOTAL PICS 4	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	18 16 49	10	4002	2142A	2240G	2230E			
01	18 16 49	20	4000	2142A	2240A	4200A		MEX	
01	18 16 49	50	1002	2142A	1114D	4610B			
01	18 16 49	60	4000	2140A					
01	18 16 49	80	4002	2140A					
02	20 04 02	00	4002					PE SCRATCHED	
03	20 27 40	00	4002					EE SCRATCHED	
04	20 54 03	00	4000					PE	

28 JANUARY 1968 NO DATA AVAILABLE



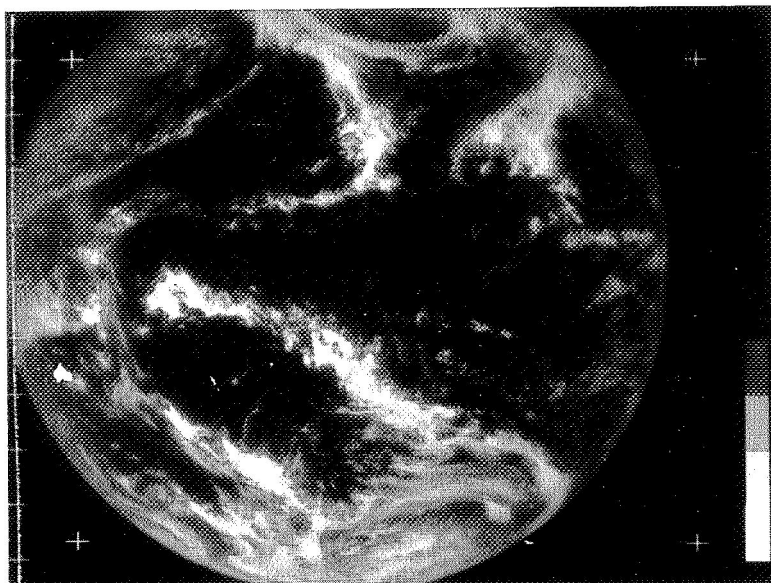
ATS-I 25 JAN 68 18 14 13 Z SEQ 1



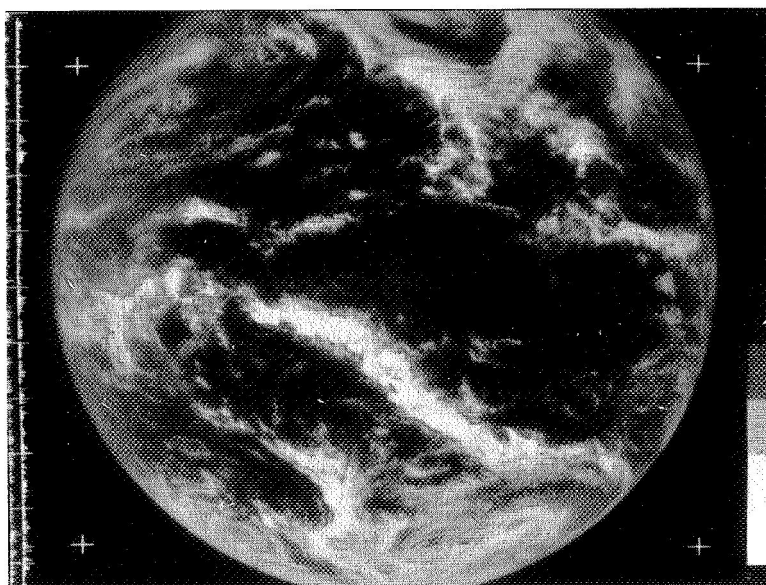
ATS-I 27 JAN 68 18 16 49 Z SEQ 1

29 JAN 68				SUBSATELLITE PT 150.42W 00.27S				TOTAL PICS 7	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	20 02 59	00	3002						
02	20 23 18	00	3002					PIC OFFSET	
02	20 23 18	00	3002					PIC OFFSET	
04	21 10 53	00	3000					PIC OFFSET	
05	21 34 34	10	3000	2142A	2240G	1113F	4200H 2230E	US MEX	
05	21 34 34	20	4000	2142A	2240A	4200A		MEX	
05	21 34 34	40	4000	2142A					
05	21 34 34	50	1000	2143A	2240C	1113D	4610F		
05	21 34 34	60	4000	2140A					
05	21 34 34	80	4000	2240A	2142A	4200A	4550A	ASTR N HEB IS	
05	21 34 34	90	5000	5000A					
06	21 58 15	00	4000					PE SCRATCHED	
07	22 21 52	00	4000					PE	

30 JAN 68				SUBSATELLITE PT 150.41W 00.27S				TOTAL PICS 8	
SEQ	START	ZONE	PICQ	DATA CONTENT DESCRIPTORS				REMARKS	
01	16 24 55	00	4002						
02	16 48 38	00	4002						
03	17 12 13	10	3002	2143H	2240G	2230E	4200H	US MEX	
03	17 12 13	20	4000	2240A	2142A	4200A		MEX	
03	17 12 13	50	1002	2143H	4610B				
03	17 12 13	60	4000	2240A	2140A				
04	17 35 54	00	4002					EE	
05	17 59 30	00	4002					PE EE	
06	21 03 29	00	3002					EE	
07	21 27 08	00	3000					EE	
08	21 50 45	10	3000	2240G	2142A	2241C	2230E 4200H 4550D	US MEX HAW EE	
08	21 50 45	20	4000	2240A	2140A	4200A		MEX EE	
08	21 50 45	40	4000	2142A	2240A			EE	
08	21 50 45	50	1000	2143H	2142A	1113F	3100A	EE	
08	21 50 45	60	4000	2140A	2240A			EE	
08	21 50 45	80	4000	2140A	2230A	4200A		ASTR EE	
08	21 50 45	90	5000	5000A					

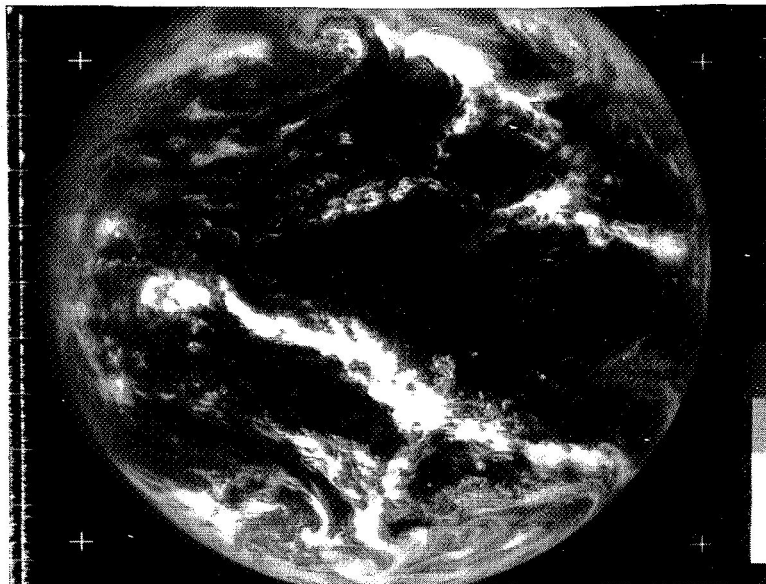


ATS-I 29 JAN 68 21 34 34 Z SEQ 5



ATS-I 30 JAN 68 21 50 45 Z SEQ 8

			31 JAN 68		SUBSATELLITE PT 150.40W 00.28S		TOTAL PICS 5
SEQ	START	ZONE	PICQ		DATA CONTENT DESCRIPTORS		REMARKS
01	21 07 28	00	3002				EE
02	21 31 09	10	3000	2240G	1114C 2142A 3100A 4200H		EE US MEX
02	21 31 09	20	4000	2240A	4200A		MEX EE
02	21 31 09	40	4000	2240A	2140A		EE
02	21 31 09	50	1000	2143C	1125D 1114E 2142A		EE
02	21 31 09	60	4000	2140A			EE
02	21 31 09	80	4000	2240A	2142A 4200A		ASTR EE
02	21 31 09	90	5000	2140A			
03	21 54 50	00	3000				EE
04	22 18 28	00	4000				EE PE
05	22 42 10	00	4000				EE



ATS-I 31 JAN 68 21 31 09 Z SEQ 2

SECTION 4

ATS-I SSCC TAPE LISTING

Listings of analog and digital data tapes were compiled by the University of Wisconsin. These listings supercede those included in Volume I, Part II, Section 4 of the Meteorological Data Catalog for the Applications Technology Satellite.

For information relative to format and availability, contact:

Dr. Verner E. Suomi
Space Sciences and Engineering Center
University of Wisconsin
Madison, Wisconsin 53706

ANALOG DATA TAPES

Reel & Track No.	Day	Time Hr.	Min.	Sequence No.
Reel 1				
Track 1	073/7 (MAR 14)	All data on this track no good—not recorded.		
Track 2		Test only this track.		
Track 5	074/7 (MAR 15)	23	54	M19
	075/7 (MAR 16)	00	17	M1
	075/7	00	40	M2
	075/7	01	01	M3
	075/7	01	26	M4
	075/7	01	49	M5
	075/7	02	12	M6
	075/7	02	35	M7
	075/7	02	58	M8
	075/7	03	20	M9
Track 7	075/7	18	11	M16
	075/7	18	34	M17
	075/7	18	57	M18
	075/7	19	20	M19
Reel 2				
Track 1	075/7	20	05	M21
	075/7	20	28	M22
	075/7	20	51	M23
	075/7	21	14	M24
	075/7	21	37	M25
	075/7	22	00	M26
	075/7	22	23	M27
	075/7	22	46	M28
	075/7	23	09	M29
	075/7	23	31	M30
	075/7	23	54	M31
Track 2	076/7 (MAR 17)	00	40	M2
	076/7	01	03	M3
	076/7	01	26	M4
	076/7	01	49	M5
	076/7	02	12	M6

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 2	076/7	02	34	M7
	076/7	02	57	M8
	076/7	20	14	M9
	076/7	20	45	M10
	076/7	21	08	M11
Track 5	077/7 (MAR 18)	00	27	M1
	077/7	00	50	M2
	077/7	02	55	M3
	077/7	03	18	M4
	077/7	23	18	M5
	077/7	23	31	M6
	077/7	23	53	M7
	078/7 (MAR 19)	00	16	M1
	078/7	00	39	M2
	078/7	21	18	M3
	078/7	21	41	M4
Track 7	078/7	22	58	M5
	078/7	23	21	M6
	078/7	23	44	M7
	079/7 (MAR 20)	00	07	M1
	079/7	00	30	M2
	079/7	00	53	M3
Reel 3				
Track 1	081/7 (MAR 22)	21	00	M1
	081/7	21	21	M2
	081/7	21	44	M3
	081/7	22	07	M4
	081/7	22	30	M5
	081/7	22	53	M6
	081/7	23	16	M7
	081/7	23	38	M8
	082/7 (MAR 23)	00	02	M1
	082/7	00	25	M2
Track 2	082/7	02	22	M4
	082/7	02	42	M5
	082/7	03	05	M6
	082/7	03	29	M7
	082/7	21	01	M8
	082/7	21	20	M9

Reel & Track No.	Day	Time Hr.	Min.	Sequence No.
Track 2	082/7	21	43	M10
	082/7	23	10	M11
	082/7	23	25	M12
	082/7	23	48	M13
Track 5	083/7 (MAR 24)	02	50	M1
	083/7	03	19	M2
	083/7	20	10	M3
	083/7	20	34	M4
	083/7	20	55	M5
	083/7	21	20	M6
	083/7	21	43	M7
	083/7	23	10	M8
	083/7	23	33	M9
	083/7	23	55	M10
	084/7 (MAR 25)	00	19	M1
Track 7	084/7	01	05	M3
	084/7	02	43	M4
	084/7	20	08	M7
	084/7	20	30	M8
	084/7	20	53	M9
	084/7	21	16	M10
	084/7	21	39	M11
<hr/>				
Reel 4				
Track 1	084/7	22	46	M12
	084/7	23	09	M13
	084/7	23	31	M14
	084/7	23	54	M15
	085/7 (MAR 26)	00	17	M1
	085/7	00	40	M2
	085/7	02	43	M3
	085/7	03	06	M4
	085/7	03	29	M5
Track 2	085/7	20	23	M7
	085/7	20	46	M8
	085/7	21	09	M9
	085/7	21	32	M10
	085/7	22	57	M11
	085/7	23	20	M12
	085/7	23	43	M13

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 2	086/7 (MAR 27)	00	06	M1
	086/7	00	29	M2
	086/7	00	52	M3
Track 5	086/7	02	42	M4
	086/7	03	05	M5
	086/7	21	01	M6
	086/7	21	24	M7
	086/7	21	47	M8
	086/7	22	45	M9
	086/7	22	52	M10
	086/7	23	24	M11
	086/7	23	38	M12
	087/7 (MAR 28)	00	00	M1
Track 7	087/7	00	46	M3
	087/7	01	09	M4
	087/7	01	32	M5
	088/7 (MAR 29)	20	33	M1
	089/7 (MAR 30)	00	09	M1
	089/7	23	38	M2
	090/7 (MAR 31)	00	01	M1
	090/7	20	26	M2
	090/7	21	47	M3
<hr/>				
Reel 5				
Track 1	090/7	23	35	M4
	090/7	23	57	M5
	091/7 (APR 1)	00	20	M1
	091/7	02	49	M2
	091/7	03	12	M3
	091/7	03	35	M4
	091/7	23	30	M5
	091/7	23	53	M6
	092/7 (APR 2)	00	15	M1
Track 2	092/7	03	10	M2
	092/7	00	33	M3
	092/7	20	32	M4
	092/7	20	55	M5
	092/7	21	18	M6
	098/7 (APR 8)	15	13	M1
	098/7	15	36	M2

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 2	098/7	16	50	M4
	098/7	17	13	M5
	098/7	17	36	M6
Track 5	098/7	22	00	M8
	098/7	22	23	M9
	098/7	22	46	M10
	098/7	23	09	M11
	099/7 (APR 9)	02	07	M1
	099/7	02	30	M2
	099/7	02	53	M3
	099/7	03	16	M4
	099/7	22	50	M5
Track 7	099/7	23	17	M6
	099/7	23	36	M7
	099/7	23	59	M8
	100/7 (APR 10)	00	22	M1
	100/7	02	35	M2
	100/7	02	58	M3
	100/7	03	21	M4
	100/7	20	47	M5
	100/7	21	09	M6
	100/7	21	32	M7
	100/7	21	55	M8
Reel 6				
Track 1	101/7 (APR 11)	23	11	M1
	101/7	23	34	M2
	102/7 (APR 12)	02	33	M1
	102/7	02	56	M2
	102/7	03	19	M3
	103/7 (APR 13)	21	39	M1
	103/7	22	02	M2
	104/7 (APR 14)	23	23	M1
	104/7	23	52	M2
Track 2	105/7 (APR 15)	20	01	M1
	105/7	21	10	M2
	105/7	21	18	M3
	106/7 (APR 16)	00	02	M1
	106/7	00	25	M2
	106/7	00	48	M3

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 2	106/7	01	12	M4
	106/7	01	35	M5
Track 5	106/7	22	08	M6
	106/7	22	32	M7
	106/7	22	55	M8
	109/7 (APR 19)	00	39	M1
	109/7	01	02	M2
	109/7	01	25	M3
	109/7	22	11	M4
	109/7	22	34	M5
	109/7	23	21	M6
Track 7	114/7 (APR 24)	03	02	M1
	114/7	03	26	M2
	114/7	03	49	M3
	114/7	04	12	M4
	114/7	04	35	M5
	114/7	04	59	M6
	114/7	05	22	M7
	114/7	05	45	M8
	114/7	06	08	M9
	114/7	06	32	M10
<hr/>				
Reel 7				
Track 1	114/7	20	38	M11
	114/7	21	02	M12
	114/7	21	48	M13
	114/7	22	11	M14
	116/7 (APR 26)	02	27	M1
	116/7	02	50	M2
	116/7	03	14	M3
	116/7	03	37	M4
<hr/>				
Track 2		Empty		
Track 5		Empty		
Track 7		Empty		

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Reel 8				
Track 1	117/7 (APR 27)	22	01	M1
	119/7 (APR 29)	04	28	M1
	120/7 (APR 30)	03	41	M1
	120/7	04	04	M2
	120/7	04	27	M3
	120/7	21	39	M4
	120/7	22	02	M5
	120/7	22	26	M6
	121/7 (MAY 1)	00	59	M1
Track 2	122/7 (MAY 2)	03	43	M1
	122/7	04	06	M2
	122/7	22	46	M3
	122/7	23	10	M4
	123/7 (MAY 3)	03	49	M1
	123/7	04	12	M2
	125/7 (MAY 5)	00	39	M1
	125/7	01	02	M2
Track 5	126/7 (MAY 6)	00	28	M1
	126/7	00	52	M2
	126/7	01	15	M3
	126/7	03	36	M4
	126/7	03	45	M5
	126/7	04	09	M6
	126/7	12	41	M7
	126/7	13	04	M8
	126/7	15	04	M9
Track 7	126/7	17	37	M12
	126/7	18	01	M13
	126/7	18	24	M14
	126/7	20	01	M15
	126/7	21	39	M16
	126/7	22	02	M17
	126/7	22	26	M18
	126/7	22	49	M19
	126/7	23	12	M20

Reel & Track No.	Day	Hr.	Time Min.	Sequence No.
Reel 9				
Track 1	127/7 (MAY 7)	00	39	M1
	127/7	01	03	M2
	127/7	03	33	M3
	127/7	03	57	M4
	127/7	06	31	M5
	127/7	06	54	M6
	127/7	12	37	M7
	127/7	13	00	M8
Track 2	127/7	15	11	M9
	127/7	15	35	M10
	127/7	15	58	M11
	127/7	16	43	M12
	127/7	18	06	M13
	127/7	18	30	M14
	127/7	18	53	M15
	127/7	21	28	M16
Track 5	127/7	22	14	M18
	128/7 (MAY 8)	04	53	M1
	128/7	21	52	M2
	128/7	22	15	M3
	128/7	22	39	M4
	129/7 (MAY 9)	00	47	M1
	129/7	01	11	M2
Track 7	129/7	03	40	M3
	129/7	04	11	M4
	129/7	06	45	M5
	129/7	07	08	M6
	129/7	21	35	M7
	129/7	22	03	M8
Reel 10				
Track 1	129/7	22	58	M9
	129/7	23	21	M10
	130/7 (MAY 10)	03	12	M1
	130/7	03	41	M2
	130/7	21	12	M3
	130/7	21	33	M4
	130/7	21	59	M5
	131/7 (MAY 11)	00	37	M1
	131/7	01	01	M2

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 2	131/7	03	49	M3
	131/7	04	13	M4
	131/7	07	02	M5
	131/7	07	25	M6
	131/7	20	57	M7
	131/7	21	20	M8
	131/7	21	44	M9
	131/7	21	46	M10
	131/7	22	09	M11
Track 5	132/7 (MAY 12)	00	37	M1
	132/7	01	01	M2
	132/7	04	36	M3
	132/7	05	00	M4
	132/7	07	21	M5
	132/7	07	45	M6
	132/7	21	07	M7
	132/7	21	30	M8
	132/7	21	54	M9
	132/7	22	18	M10
Track 7	133/7 (MAY 13)	06	34	M1
	133/7	06	58	M2
	134/7 (MAY 14)	03	25	M1
	134/7	21	47	M2
	134/7	22	11	M3
	135/7 (MAY 15)	02	58	M1
	135/7	03	21	M2
	135/7	03	45	M3
<hr/>				
Reel 11				
Track 1	135/7	21	38	M4
	135/7	22	01	M5
	135/7	22	25	M6
	136/7 (MAY 16)	02	34	M1
	136/7	02	57	M2
	136/7	03	21	M3
	136/7	03	44	M4
	136/7	21	49	M5
	136/7	22	36	M6

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 2	137/7 (MAY 17)	02	09	M1
	137/7	02	56	M3
	137/7	20	36	M4
	137/7	20	59	M5
	138/7 (MAY 18)	03	26	M1
	138/7	03	49	M2
	138/7	04	13	M3
	138/7	20	19	M4
	138/7	21	03	M5
Track 5	139/7 (MAY 19)	03	32	M1
	139/7	03	55	M2
	139/7	04	18	M3
	139/7	06	40	M4
	139/7	07	04	M5
	139/7	22	03	M6
	139/7	22	27	M7
	140/7 (MAY 20)	02	50	M1
	140/7	03	13	M2
	140/7	03	37	M3
Track 7	140/7	22	22	M4
	140/7	22	46	M5
	141/7 (MAY 21)	22	00	M1
	141/7	22	23	M2
	141/7	22	47	M3
	142/7 (MAY 22)	22	39	M1
	143/7 (MAY 23)	02	46	M1
	143/7	03	10	M2
	143/7	03	33	M3
<hr/>				
Reel 12				
Track 1	143/7	21	53	M4
	143/7	22	17	M5
	143/7	22	40	M6
	144/7 (MAY 24)	03	05	M1
	144/7	03	28	M2
	144/7	03	52	M3
	144/7	22	17	M4
	144/7	22	41	M5
	145/7 (MAY 25)	02	06	M1
	145/7	02	30	M2

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 2	145/7	21	58	M3
	145/7	22	22	M4
	145/7	22	45	M5
	146/7 (MAY 26)	02	50	M1
	146/7	03	14	M2
	146/7	03	37	M3
	146/7	22	39	M4
	146/7	23	02	M5
	147/7 (MAY 27)	02	52	M1
	147/7	03	16	M2
Track 5	147/7	21	53	M4
	147/7	22	17	M5
	147/7	22	40	M6
	148/7 (MAY 28)	02	43	M1
	148/7	13	29	M2
	148/7	15	34	M3
	148/7	17	27	M4
	148/7	19	38	M5
	148/7	21	26	M6
	148/7	23	33	M7
Track 7	149/7 (MAY 29)	02	24	M1
	149/7	03	21	M2
	149/7	21	52	M3
	149/7	22	15	M4
	149/7	22	36	M5
	150/7 (MAY 30)	02	53	M1
	150/7	18	21	M2
	150/7	18	44	M3
<hr/>				
Reel 13				
Track 1	150/7	21	57	M4
	150/7	22	21	M5
	150/7	22	44	M6
	151/7 (MAY 31)	02	58	M1
	151/7	03	21	M2
	151/7	03	45	M3
	151/7	18	46	M4
	151/7	22	01	M5
	151/7	22	24	M6

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 2	153/7 (JUN 2)	03	47	M1
	153/7	04	11	M2
	153/7	22	06	M3
	153/7	22	28	M4
	153/7	22	51	M5
	154/7 (JUN 3)	03	20	M1
	154/7	03	43	M2
	154/7	04	07	M3
	154/7	18	12	M4
	154/7	18	36	M5
Track 5	154/7	21	41	M6
	154/7	22	04	M7
	154/7	22	28	M8
	155/7 (JUN 4)	02	50	M1
	155/7	03	13	M2
	155/7	03	37	M3
	155/7	18	07	M4
	155/7	18	31	M5
Track 7	155/7	21	56	M6
	155/7	22	19	M7
	155/7	22	43	M8
	156/7 (JUN 5)	18	24	M1
	156/7	18	47	M2
	156/7	22	12	M3
	156/7	22	36	M4
	156/7	22	59	M5
<hr/>				
Reel 14				
Track 1	158/7 (JUN 7)	23	08	M1
	158/7	23	31	M2
	159/7 (JUN 8)	02	57	M1
	159/7	03	20	M2
	159/7	03	44	M3
	159/7	18	07	M4
	159/7	18	31	M5
	159/7	18	54	M6
Track 2	159/7	22	21	M7
	159/7	22	44	M8
	160/7 (JUN 9)	03	18	M1
	160/7	03	42	M2

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 2	160/7	04	05	M3
	160/7	21	18	M4
	160/7	21	41	M5
	161/7 (JUN 10)	03	05	M1
	161/7	03	29	M2
Track 5	161/7	18	03	M3
	161/7	18	27	M4
	161/7	18	51	M5
	161/7	22	08	M6
	161/7	22	32	M7
	161/7	22	55	M8
	162/7 (JUN 11)	03	01	M1
	162/7	03	24	M2
	162/7	03	48	M3
Track 7	162/7	18	18	M4
	162/7	18	42	M5
	162/7	22	46	M6
	162/7	23	10	M7
	163/7 (JUN 12)	02	39	M1
	163/7	03	03	M2
	163/7	03	27	M3
<hr/>				
Reel 15				
Track 1	163/7	18	17	M4
	163/7	18	40	M5
	163/7	22	58	M6
	163/7	23	04	M7
	163/7	23	27	M8
	164/7 (JUN 13)	03	57	M1
	164/7	04	23	M2
	164/7	04	46	M3
	164/7	05	10	M4
	164/7	05	33	M5
Track 2	164/7	18	09	M6
	164/7	18	33	M7
	164/7	18	56	M8
	164/7	21	49	M9
	164/7	22	13	M10
	164/7	22	36	M11

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 2	165/7 (JUN 14)	04	20	M1
	165/7	04	44	M2
	165/7	05	07	M3
Track 5	165/7	18	49	M4
	165/7	19	12	M5
	165/7	19	36	M6
	165/7	22	47	M7
	165/7	23	10	M8
	165/7	23	34	M9
	166/7 (JUN 15)	03	38	M1
	166/7	04	01	M2
	166/7	04	25	M3
Track 7	Empty			
Reel 16				
Track 1	166/7	18	15	M4
	166/7	18	38	M5
	166/7	19	02	M6
	166/7	20	55	M7
	166/7	21	18	M8
	166/7	21	42	M9
	167/7 (JUN 16)	03	30	M1
Track 2	167/7	18	05	M2
	167/7	18	29	M3
	167/7	18	52	M4
	167/7	21	22	M5
	167/7	21	46	M6
	167/7	22	09	M7
Track 5	168/7 (JUN 17)	02	35	M1
	168/7	02	58	M2
	168/7	03	22	M3
	168/7	18	02	M4
	168/7	18	26	M5
	168/7	18	49	M6
Track 7	168/7	21	38	M7
	168/7	22	02	M8
	168/7	22	25	M9

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 7	169/7 (JUN 18)	02	53	M1
	169/7	03	16	M2
	169/7	03	40	M3
<hr/>				
Reel 17				
Track 1	169/7	18	11	M4
	169/7	18	35	M5
	169/7	18	58	M6
	169/7	22	14	M7
	169/7	22	37	M8
	169/7	23	01	M9
	170/7 (JUN 19)	02	44	M1
	170/7	03	08	M2
	170/7	03	31	M3
Track 2	170/7	18	11	M4
	170/7	18	35	M5
	170/7	18	58	M6
	170/7	22	27	M7
	170/7	22	51	M8
	170/7	23	14	M9
	171/7 (JUN 20)	03	12	M1
	171/7	03	36	M2
Track 5	171/7	13	09	M3
	171/7	13	33	M4
	171/7	14	20	M6
	171/7	14	44	M7
	171/7	15	07	M8
	171/7	15	31	M9
	171/7	15	54	M10
	171/7	16	18	M11
Track 7	171/7	17	05	M13
	171/7	17	29	M14
	171/7	17	52	M15
	171/7	18	16	M16
	171/7	18	40	M17
	171/7	19	03	M18
	171/7	19	27	M19
	171/7	19	50	M20
	171/7	20	14	M21

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
<hr/>				
Reel 18				
Track 1		Empty		
Track 2		Empty		
Track 5		Empty		
Track 7	171/7	21	01	M23
	171/7	21	25	M24
	172/7 (JUN 21)	00	35	M1
	172/7	00	58	M2
	172/7	01	22	M3
	172/7	01	45	M4
	172/7	02	09	M5
	172/7	02	33	M6
	172/7	02	56	M7
<hr/>				
Reel 19				
Track 1	172/7	03	46	M9
	172/7	04	07	M10
	172/7	04	31	M11
	172/7	13	12	M12
	172/7	13	36	M13
	172/7	13	59	M14
	172/7	14	23	M15
	172/7	14	47	M16
	172/7	15	10	M17
	172/7	15	34	M18
Track 2	172/7	16	21	M20
	172/7	16	45	M21
	172/7	17	08	M22
	172/7	17	32	M23
	172/7	17	55	M24
	172/7	18	19	M25
	172/7	18	43	M26
	172/7	19	06	M27
	172/7	19	30	M28
	172/7	19	53	M29
Track 5	172/7	20	40	M31
	172/7	21	04	M32
	172/7	21	28	M33

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 5	172/7	21	51	M34
	172/7	22	15	M35
	172/7	22	38	M36
	172/7	23	02	M37
	172/7	23	26	M38
	173/7 (JUN 22)	00	13	M1
Track 7	173/7	01	00	M3
	173/7	01	24	M4
	173/7	01	47	M5
	173/7	02	11	M6
	173/7	02	34	M7
	173/7	02	58	M8
	173/7	03	22	M9
	173/7	03	45	M10
	173/7	04	09	M11
	173/7	04	32	M12
<hr/>				
Reel 20				
Track 1	173/7	21	04	M13
	173/7	21	27	M14
	174/7 (JUN 23)	18	37	M1
	174/7	19	00	M2
	174/7	21	04	M3
	174/7	21	28	M4
	174/7	21	39	M5
	175/7 (JUN 24)	02	31	M1
	175/7	02	55	M2
	175/7	03	03	M3
Track 2	175/7	21	47	M4
	175/7	21	52	M5
	175/7	22	16	M6
	175/7	22	39	M7
	176/7 (JUN 25)	02	40	M1
	176/7	03	04	M2
	176/7	03	27	M3
	177/7 (JUN 26)	02	34	M1
	177/7	02	58	M2
	177/7	03	21	M3

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 5	177/7	18	17	M4
	177/7	18	40	M5
	177/7	19	04	M6
	177/7	21	51	M7
	177/7	22	15	M8
	177/7	22	39	M9
	178/7 (JUN 27)	03	42	M1
	178/7	18	07	M2
Track 7	178/7	20	48	M3
	178/7	21	12	M4
	178/7	21	36	M5
	178/7	21	59	M6
	178/7	22	23	M7
	178/7	22	46	M8
	178/7	23	10	M9
	179/7 (JUN 28)	03	50	M1
	179/7	17	30	M2
	179/7	17	54	M3
	179/7	18	17	M4
<hr/>				
Reel 21				
Track 1	179/7	20	24	M5
	179/7	20	48	M6
	179/7	21	11	M7
	179/7	21	35	M8
	179/7	21	59	M9
	180/7 (JUN 29)	03	27	M1
	180/7	18	06	M2
	180/7	20	49	M3
	180/7	21	13	M4
	180/7	21	36	M5
Track 2	180/7	22	24	M7
	180/7	22	47	M8
	180/7	23	11	M9
	181/7 (JUN 30)	03	19	M1
	181/7	18	03	M2
	181/7	20	44	M3
	181/7	21	08	M4

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 2	181/7	21	32	M5
	181/7	21	55	M6
	181/7	22	19	M7
Track 5	181/7	23	06	M9
	182/7 (JUL 1)	04	00	M1
	183/7 (JUL 2)	19	50	M3
	183/7	20	13	M4
	183/7	20	37	M5
	183/7	21	01	M6
	183/7	21	24	M7
	183/7	21	48	M8
Track 7	184/7 (JUL 3)	18	13	M2
	184/7	19	08	M3
	184/7	19	31	M4
	184/7	19	55	M5
	184/7	20	19	M6
	184/7	20	42	M7
	184/7	21	06	M8
	184/7	21	29	M9
<hr/>				
Reel 22				
Track 1	185/7 (JUL 4)	03	34	M1
	186/7 (JUL 5)	18	11	M1
	186/7	19	59	M2
	186/7	20	23	M3
	186/7	20	46	M4
	186/7	21	10	M5
	186/7	21	33	M6
	186/7	21	57	M7
	186/7	22	21	M8
	187/7 (JUL 6)	03	55	M1
Track 2	187/7	18	02	M2
	187/7	21	09	M3
	187/7	21	33	M4
	187/7	21	56	M5
	187/7	22	20	M6
	187/7	22	43	M7
	187/7	23	07	M8
	187/7	23	31	M9
	188/7 (JUL 7)	03	51	M1

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 5	188/7	18	04	M2
	188/7	21	09	M3
	188/7	21	32	M4
	188/7	21	56	M5
	188/7	22	19	M6
	188/7	22	43	M7
	188/7	23	07	M8
	188/7	23	30	M9
Track 7	189/7 (JUL 8)	17	58	M2
	189/7	21	27	M3
	189/7	21	51	M4
	189/7	22	14	M5
	189/7	22	38	M6
	189/7	23	02	M7
	189/7	23	25	M8
	190/7 (JUL 9)	03	50	M1
<hr/>				
Reel 23				
Track 1	190/7	18	06	M2
	190/7	20	58	M3
	190/7	21	22	M4
	190/7	21	45	M5
	190/7	22	09	M6
	190/7	22	32	M7
	190/7	22	56	M8
	191/7 (JUL 10)	03	48	M1
Track 2	192/7 (JUL 11)	21	01	M1
	192/7	21	24	M2
	192/7	21	48	M3
	192/7	22	17	M4
	192/7	22	40	M5
	192/7	23	04	M6
	193/7 (JUL 12)	03	52	M1
<hr/>				
Track 5	Empty			
Track 7	Empty			

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Reel 24				
Track 1	193/7	18	26	M2
	193/7	20	54	M3
	193/7	21	18	M4
	193/7	21	41	M5
	193/7	22	05	M6
	193/7	22	29	M7
	193/7	22	52	M8
Track 2	197/7 (JUL 16)	04	43	M13
	197/7	05	45	M14
	197/7	06	08	M15
	197/7	06	40	M16
	197/7	18	37	M17
	197/7	20	53	M18
	197/7	21	17	M19
	197/7	21	40	M20
	197/7	22	04	M21
	197/7	22	27	M22
Track 5	198/7 (JUL 17)	05	05	M1
	198/7	18	05	M2
	198/7	20	45	M3
	198/7	21	08	M4
	198/7	21	32	M5
	198/7	21	55	M6
	198/7	22	22	M7
	198/7	22	46	M8
	198/7	23	09	M9
	199/7 (JUL 18)	03	47	M1
Track 7	199/7	18	07	M2
	200/7 (JUL 19)	03	55	M1
	201/7 (JUL 20)	04	08	M1
	202/7 (JUL 21)	03	28	M1
	202/7	21	05	M2
	202/7	21	29	M3
	202/7	21	52	M4
	202/7	22	16	M5
	202/7	22	40	M6
	203/7 (JUL 22)	03	57	M1

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Reel 25				
Track 1	203/7	18	05	M2
	203/7	20	51	M3
	203/7	21	14	M4
	203/7	21	38	M5
	203/7	22	01	M6
	203/7	22	25	M7
	203/7	22	48	M8
	204/7 (JUL 23)	03	46	M1
	204/7	18	06	M2
	204/7	20	51	M3
	204/7	21	15	M4
Track 2	204/7	22	02	M6
	204/7	22	25	M7
	204/7	22	49	M8
	204/7	23	13	M9
	205/7 (JUL 24)	03	30	M1
	205/7	18	15	M2
	205/7	20	58	M3
	205/7	21	22	M4
	205/7	21	45	M5
	205/7	22	09	M6
	205/7	22	32	M7
Track 5	206/7 (JUL 25)	18	10	M1
	206/7	20	51	M2
	206/7	21	14	M3
	206/7	21	38	M4
	206/7	22	02	M5
	206/7	22	25	M6
	206/7	22	49	M7
	207/7 (JUL 26)	03	06	M1
	207/7	03	53	M2
	207/7	04	17	M3
Track 7	207/7	21	05	M4
	207/7	20	28	M5
	208/7 (JUL 27)	18	14	M1
	208/7	21	04	M2
	208/7	21	28	M3
	208/7	21	51	M4
	208/7	22	15	M5
	208/7	22	39	M6
	208/7	23	02	M7

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Reel 26				
Track 1	209/7 (JUL 28)	04	04	M1
	211/7 (JUL 30)	18	08	M1
	211/7	20	16	M2
	211/7	20	39	M3
	212/7 (JUL 31)	03	55	M1
	212/7	18	07	M2
	212/7	20	55	M3
	212/7	21	19	M4
	212/7	21	42	M5
Track 2	212/7	22	06	M6
	212/7	22	29	M7
	212/7	22	52	M8
	212/7	23	17	M9
	213/7 (AUG 1)	21	21	M1
	213/7	21	45	M2
	213/7	22	08	M3
	213/7	22	32	M4
	213/7	22	56	M5
	213/7	23	19	M6
Track 5	214/7 (AUG 2)	18	09	M1
	214/7	22	17	M2
	214/7	22	41	M3
	215/7 (AUG 3)	03	48	M1
	215/7	21	03	M2
	215/7	21	27	M3
	215/7	21	50	M4
	215/7	22	14	M5
	215/7	22	39	M6
	215/7	23	06	M7
	215/7	23	31	M8
	Track 7	217/7 (AUG 5)	21	21
217/7		21	45	M2
217/7		22	09	M3
217/7		22	32	M4
217/7		22	56	M5
217/7		23	19	M6
218/7 (AUG 6)		03	56	M1
218/7		18	29	M2

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Reel 27				
Track 1	218/7	21	04	M3
	218/7	21	28	M4
	218/7	21	52	M5
	219/7 (AUG 7)	03	57	M1
	220/7 (AUG 8)	03	45	M1
	220/7	18	16	M2
	220/7	21	18	M3
	220/7	21	41	M4
	220/7	22	05	M5
	220/7	22	28	M6
	220/7	22	52	M7
Track 2	221/7 (AUG 9)	03	45	M1
	222/7 (AUG 10)	03	48	M1
	222/7	20	49	M2
	222/7	21	13	M3
	222/7	21	36	M4
	222/7	22	00	M5
	222/7	22	23	M6
	222/7	22	47	M7
Track 5	223/7 (AUG 11)	03	51	M1
	223/7	18	04	M2
	223/7	18	28	M3
	223/7	21	22	M4
	223/7	21	45	M5
	223/7	22	09	M6
	223/7	22	33	M7
	223/7	22	56	M8
	223/7	23	20	M9
Track 7	224/7 (AUG 12)	04	18	M1
	224/7	18	26	M2
	224/7	21	13	M3
	224/7	21	36	M4
	224/7	22	00	M5
	224/7	22	24	M6
	224/7	22	47	M7
	224/7	23	11	M8

Reel & Track No.	Day	Time Hr. Min.	Sequence No.
Reel 28			
Track 1	225/7 (AUG 13)	03 52	M1
	225/7	20 50	M2
	225/7	21 14	M3
	225/7	21 38	M4
	225/7	22 01	M5
	225/7	22 25	M6
	225/7	22 48	M7
	225/7	23 12	M8
	226/7 (AUG 14)	03 42	M1
	226/7	18 09	M2
Track 2	227/7 (AUG 15)	13 17	M1
	227/7	13 41	M2
	227/7	13 43	M3
	227/7	14 07	M4
	227/7	14 31	M5
	227/7	14 54	M6
	227/7	15 18	M7
	227/7	15 41	M8
	227/7	16 05	M9
	227/7	16 29	M10
Track 5	227/7	17 16	M12
	227/7	17 39	M13
	227/7	18 03	M14
	227/7	18 27	M15
	227/7	18 50	M16
	227/7	19 14	M17
	227/7	19 38	M18
	227/7	20 01	M19
	227/7	20 25	M20
	227/7	20 48	M21
Track 7	227/7	21 36	M23
	227/7	21 59	M24
	227/7	22 23	M25
	227/7	22 46	M26
	227/7	23 10	M27
	227/7	23 34	M28
	227/7	23 57	M29
	228/7 (AUG 16)	00 21	M1
	228/7	00 44	M2
	228/7	01 08	M3

Reel & Track No.	Day	Time		Sequence No.	
		Hr.	Min.		
Reel 29					
Track 1	228/7	01	55	M5	
	228/7	02	19	M6	
	228/7	02	42	M7	
	228/7	03	06	M8	
	228/7	03	30	M9	
	228/7	03	53	M10	
	228/7	04	16	M11	
	228/7	04	40	M12	
	228/7	05	04	M13	
	228/7	05	28	M14	
	Track 2	228/7	06	15	M16
		228/7	06	38	M17
		228/7	18	27	M18
		228/7	22	54	M19
228/7		23	17	M20	
229/7 (AUG 17)		03	52	M1	
229/7		21	31	M2	
229/7		21	55	M3	
229/7		22	18	M4	
229/7		22	42	M5	
Track 5		229/7	23	06	M6
	229/7	23	29	M7	
	230/7 (AUG 18)	04	02	M1	
	230/7	23	11	M2	
	230/7	23	34	M3	
	231/7 (AUG 19)	03	28	M1	
	231/7	21	31	M2	
	231/7	21	55	M3	
	231/7	22	19	M4	
	231/7	22	42	M5	
	Track 7	231/7	23	29	M7
232/7 (AUG 20)		03	30	M1	
232/7		18	10	M2	
232/7		22	27	M3	
232/7		22	51	M4	
232/7		23	15	M5	
233/7 (AUG 21)		03	47	M1	
233/7		18	10	M2	

Reel & Track No.	Day	Time Hr.	Min.	Sequence No.
<hr/>				
Reel 30				
Track 1	234/7 (AUG 22)	05	03	M1 (Moon)
	234/7	05	45	M2 (Moon)
	234/7	09	14	M3 (Blk Sky test)
	235/7 (AUG 23)	05	04	M1 (Moon)
	235/7	05	38	M2 (Moon)
	236/7 (AUG 24)	00	18	M1
	236/7	00	42	M2
	236/7	13	45	M3
Track 2		Empty		
Track 5		Empty		
Track 7		Empty		
<hr/>				
Reel 31				
Track 1	236/7	16	07	M4
	236/7	16	31	M5
	236/7	16	54	M6
	236/7	17	18	M7
	236/7	17	42	M8
	236/7	18	05	M9
	236/7	18	32	M10
	236/7	18	56	M11
	236/7	19	20	M12
	236/7	19	43	M13
Track 2	236/7	20	33	M15
	236/7	20	57	M16
	236/7	21	21	M17
	236/7	21	44	M18
	236/7	22	08	M19
	236/7	22	31	M20
	236/7	22	55	M21
	236/7	23	18	M22
	236/7	23	42	M23
	237/7 (AUG 25)	00	06	M1
Track 5	237/7	00	56	M3
	237/7	01	16	M4
	237/7	01	40	M5
	237/7	02	04	M6

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 5	237/7	02	27	M7
	237/7	02	51	M8
	237/7	03	14	M9
	237/7	03	38	M10
	237/7	04	02	M11
	237/7	04	25	M12
Track 7	237/7	05	13	M14
	237/7	05	36	M15
	237/7	06	00	M16
	237/7	06	23	M17
	237/7	13	20	M18
	237/7	13	52	M19
	237/7	14	16	M20
	237/7	14	39	M21
	237/7	15	03	M22
	237/7	15	27	M23
<hr/>				
Reel 32				
Track 1	237/7	16	38	M26
	237/7	17	01	M27
	237/7	17	24	M28
	237/7	17	48	M29
	237/7	18	12	M30
	237/7	18	35	M31
	237/7	18	59	M32
	237/7	19	23	M33
	237/7	19	46	M34
	237/7	20	10	M35
Track 2	237/7	20	57	M37
	237/7	21	21	M38
	237/7	21	44	M39
	237/7	22	08	M40
	237/7	22	31	M41
	237/7	22	55	M42
	237/7	23	29	M43
	237/7	23	51	M44
	238/7 (AUG 26)	00	16	M1
	238/7	00	40	M2
Track 5	238/7	01	27	M4
	238/7	01	51	M5
	238/7	02	15	M6

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 5	238/7	02	38	M7
	238/7	03	02	M8
	238/7	03	25	M9
	238/7	03	49	M10
	238/7	04	13	M11
	238/7	04	36	M12
	238/7	05	00	M13
Track 7	238/7	05	47	M15
	238/7	06	11	M16
	238/7	06	34	M17
	243/7 (AUG 31)	18	17	M1
	243/7	18	40	M2
	243/7	19	04	M3
	243/7	19	27	M4
	243/7	21	28	M5
	243/7	21	51	M6
	243/7	22	15	M7
<hr/>				
Reel 33				
Track 1	243/7	23	02	M9
	243/7	23	26	M10
	245/7 (SEP 2)	22	58	M1
	245/7	23	58	M2
	246/7 (SEP 3)	01	01	M1
	246/7	21	29	M2
	246/7	21	52	M3
	246/7	22	16	M4
Track 2	246/7	23	03	M6
	247/7 (SEP 4)	01	14	M1
	247/7	04	29	M2
	248/7 (SEP 5)	18	37	M1
	249/7 (SEP 6)	01	04	M1
	249/7	04	49	M2
Track 5	251/7 (SEP 8)	02	34	M1
	252/7 (SEP 9)	00	56	M1
	252/7	01	19	M2
	252/7	01	43	M3
	252/7	14	51	M4
	252/7	15	15	M5
	252/7	15	51	M6
	252/7	16	14	M7

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 7	252/7	17	01	M9
	252/7	17	25	M10
	252/7	17	49	M11
	252/7	18	12	M12
	252/7	18	36	M13
	252/7	21	22	M14
	252/7	21	28	M15
	252/7	21	51	M16
<hr/>				
Reel 34				
Track 1	253/7 (SEP 10)	04	03	M2
	253/7	21	28	M3
	253/7	21	52	M4
	253/7	22	15	M5
	253/7	22	47	M6
	253/7	23	10	M7
Track 2	254/7 (SEP 11)	01	46	M1
	254/7	04	31	M2
	254/7	18	18	M3
	254/7	23	01	M4
	254/7	23	25	M5
Track 5	255/7 (SEP 12)	01	13	M1
	255/7	18	48	M2
	256/7 (SEP 13)	18	08	M1
	257/7 (SEP 14)	21	23	M2
	257/7	22	08	M3
	257/7	22	27	M4
	257/7	22	51	M5
Track 7	258/7 (SEP 15)	23	26	M1
	259/7 (SEP 16)	13	16	M2
	259/7	13	40	M3
	259/7	14	03	M4
	259/7	14	27	M5
	259/7	14	50	M6
<hr/>				
Reel 35				
Track 1	259/7	16	24	M7
	259/7	16	48	M8
	259/7	17	12	M9

Reel No. Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 1	259/7	17	35	M10
	259/7	17	59	M11
	259/7	18	22	M12
	259/7	18	46	M13
	259/7	19	10	M14
Track 2	259/7	19	57	M16
	259/7	20	20	M17
	259/7	20	44	M18
	259/7	21	08	M19
	259/7	21	31	M20
	259/7	21	55	M21
	259/7	22	18	M22
Track 5	259/7	23	06	M24
	259/7	23	39	M25
	259/7	23	53	M26
	260/7 (SEP 17)	00	16	M1
	260/7	00	40	M2
	260/7	01	04	M3
	260/7	01	27	M4
	260/7	01	51	M5
Track 7	260/7	03	02	M8
	260/7	03	25	M9
	260/7	03	49	M10
	260/7	04	12	M11
	260/7	04	36	M12
	260/7	05	00	M13
	260/7	05	23	M14
	260/7	05	47	M15
<hr/>				
Reel 36				
Track 1	260/7	08	49	M17
	260/7	09	35	M18
	260/7	09	57	M19
	260/7	10	17	M20
	260/7	13	07	M21
	260/7	13	30	M22
	260/7	13	54	M23
	260/7	14	17	M24

Reel No. Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 2	260/7	15	04	M26
	260/7	15	28	M27
	260/7	15	52	M28
	260/7	16	15	M29
	260/7	16	39	M30
	260/7	17	02	M31
	260/7	17	26	M32
Track 5	260/7	18	13	M34
	260/7	18	37	M35
	260/7	19	00	M36
	260/7	19	24	M37
	260/7	19	48	M38
	260/7	20	11	M39
	260/7	20	35	M40
Track 7	260/7	21	22	M42
	260/7	21	29	M43
	260/7	21	52	M44
	260/7	22	37	M45
	260/7	22	40	M46
	260/7	23	07	M47
	260/7	23	30	M48
	260/7	23	54	M49
<hr/>				
Reel 37				
Track 1	261/7 (SEP 18)	01	05	M3
	261/7	01	28	M4
	261/7	01	52	M5
	261/7	02	16	M6
	261/7	02	39	M7
	261/7	03	03	M8
	261/7	03	24	M9
	261/7	03	50	M10
Track 2	261/7	04	37	M12
	261/7	05	01	M13
	261/7	05	24	M14
	261/7	05	48	M15
	261/7	16	17	M16
	261/7	16	27	M17
	261/7	16	55	M18
	261/7	17	21	M19

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 5	261/7	18	11	M21
	261/7	18	38	M22
	261/7	19	07	M23
	261/7	19	33	M24
	261/7	20	00	M25
	261/7	20	24	M26
Track 7	261/7	22	54	M28
	261/7	23	17	M29
	261/7	23	41	M30
	262/7 (SEP 19)	00	05	M1
	262/7	00	21	M2
	262/7	00	43	M3
	262/7	01	05	M4
	262/7	01	25	M5
	262/7	01	37	M6
	262/7	01	49	M7
Reel 38				
Track 1	262/7	08	46	M
	262/7	18	19	M8
	263/7 (SEP 20)	04	24	M1
	263/7	08	49	M2
	263/7	11	09	M3
Track 2	263/7	19	21	M6
	264/7 (SEP 21)	03	51	M1
	264/7	18	51	M2
	264/7	22	49	M3
	265/7 (SEP 22)	03	24	M1
Track 5	265/7	19	07	M8
	265/7	22	11	M9
Track 7		Empty		
Reel 39				
Track 1	266/7 (SEP 23)	18	25	M1
	266/7	21	23	M2
	266/7	21	47	M3
	266/7	22	08	M4
	266/7	22	32	M5
	267/7 (SEP 24)	04	20	M1

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 2	267/7	18	19	M2
	267/7	21	03	M3
	267/7	21	27	M4
	267/7	21	50	M5
	267/7	21	14	M6
	267/7	22	38	M7
	267/7	23	01	M8
Track 5		Empty		
Track 7		Empty		
Reel 40				
Track 1	268/7 (SEP 25)	03	42	M1
	268/7	18	13	M2
	268/7	21	11	M3
	268/7	21	34	M4
	268/7	21	58	M5
	268/7	22	22	M6
	268/7	22	45	M7
Track 2	269/7 (SEP 26)	04	15	M1
	269/7	18	56	M2
	269/7	21	28	M3
	269/7	22	14	M4
	269/7	22	37	M5
	270/7 (SEP 27)	04	06	M1
	Track 5		Empty	
Track 7		Empty		
Reel 41				
Track 1	270/7	18	16	M2
	270/7	18	50	M3
	270/7	21	27	M4
	270/7	21	51	M5
	270/7	22	15	M6
	271/7 (SEP 28)	18	25	M2

Reel & Track No.	Day	Hr.	Time Min.	Sequence No.
Track 2	271/7	21	45	M3
	271/7	22	14	M4
	271/7	22	38	M5
	271/7	23	01	M6
	272/7 (SEP 29)	03	41	M1
	272/7	19	27	M2
	272/7	22	30	M3
Track 5		Empty		
Track 7		Empty		
Reel 42				
Track 1	273/7 (SEP 30)	04	01	M1
	273/7	18	14	M2
	273/7	20	55	M3
	273/7	21	18	M4
	273/7	21	42	M5
	273/7	22	05	M6
	273/7	22	29	M7
	273/7	22	53	M8
Track 2	274/7 (OCT 1)	04	07	M1
	274/7	18	17	M2
	274/7	20	55	M3
	274/7	21	19	M4
	274/7	21	43	M5
	274/7	22	06	M6
	274/7	22	30	M7
	274/7	22	53	M8
Track 5		Empty		
Track 7		Empty		
Reel 43				
Track 1		Empty		
Track 2	275/7 (OCT 2)	03	42	M1
	275/7	21	31	M3
	275/7	21	55	M4
	275/7	22	18	M5
	275/7	22	42	M6

Reel & Track No.	Day	Hr.	Time Min.	Sequence No.
Track 5		Empty		
Track 7		Empty		
Reel 44				
Track 1	276/7 (OCT 3)	21	25	M2
	276/7	21	49	M3
	276/7	22	12	M4
	276/7	22	36	M5
	276/7	23	00	M6
Track 2	277/7 (OCT 4)	21	12	M2
	277/7	21	35	M3
	277/7	22	03	M4
	277/7	22	27	M5
	277/7	22	50	M6
	277/7	23	14	M7
	278/7 (OCT 5)	04	23	M1
	278/7	18	17	M2
Track 5		Empty		
Track 7		Empty		
Reel 45				
Track 1	279/7 (OCT 6)	22	04	M2
	279/7	22	28	M3
	279/7	22	51	M4
	280/7 (OCT 7)	00	03	M1
	280/7	03	47	M2
	280/7	18	21	M3
	281/7 (OCT 8)	18	36	M1
	282/7 (OCT 9)	00	06	M1
	282/7	03	43	M2
Track 2		Empty		
Track 5	278/7 (OCT 5)	21	49	M3
	278/7	22	13	M4
	278/7	22	36	M5
	278/7	23	00	M6
	279/7 (OCT 6)	18	19	M1

Reel & Track No.	Day	Time Hr. Min.		Sequence No.
Track 7		Empty		
<hr/>				
Reel 46				
Track 1	284/7 (OCT 11)	18	15	M1
	284/7	20	49	M2
	284/7	21	14	M3
	284/7	21	38	M4
	284/7	22	01	M5
	284/7	22	25	M6
	284/7	22	49	M7
	284/7	23	12	M8
Track 2		Empty		
Track 5		Empty		
Track 7		Empty		

Reels 47, 48, and 49 are blank due to recorder being down. The operator skipped these numbers accidentally and started with number 50.

Reel 50				
Track 1	294/7 (OCT 21)	00	42	M2
	294/7	01	17	M3
	294/7	01	51	M4
	294/7	02	27	M5
	294/7	03	17	M6
	294/7	03	57	M7
Track 2	294/7	05	44	M8
	294/7	06	07	M9
	294/7	06	31	M10
	294/7	18	46	M11
	294/7	20	51	M12
	294/7	21	15	M13
	294/7	21	39	M14
	294/7	22	02	M15
Track 5		Empty		
Track 7		Empty		

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
<hr/>				
Reel 51				
Track 1	294/7	22	49	M17
	294/7	23	13	M18
	294/7	03	14	M19
Track 2	295/7 (OCT 22)	18	03	M2
	295/7	20	58	M3
	295/7	21	22	M4
	295/7	21	45	M5
	295/7	22	09	M6
Track 5	295/7	22	56	M8
	296/7 (OCT 23)	03	14	M1
	296/7	18	12	M2
	296/7	18	35	M3
	296/7	18	59	M4
	296/7	19	52	M5
	296/7	20	24	M6
Track 7	296/7	21	14	M7
	297/7 (OCT 24)	03	21	M1
	297/7	03	58	M2
	297/7	18	09	M3
	297/7	18	41	M4
	297/7	19	11	M5
	297/7	20	53	M6
<hr/>				
Reel 52				
Track 1	313/7 (NOV 9)	20	30	M1
	313/7	21	02	M2
	313/7	21	25	M3
	314/7 (NOV 10)	21	36	M1
	314/7	21	59	M2
	314/7	22	23	M3
Track 2	316/7 (NOV 12)	21	19	M1
	316/7	21	43	M2
	316/7	22	06	M3
	318/7 (NOV 14)	21	18	M1
	318/7	21	42	M2
	318/7	22	05	M3
	318/7	22	29	M4

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 5		Empty		
Track 7	321/7 (NOV 17)	20	47	M3
<hr/>				
Reel 53				
Track 1	322/7 (NOV 18)	13	22	M1
	322/7	13	45	M2
	322/7	14	09	M3
	322/7	14	33	M4
	322/7	14	56	M5
	322/7	15	20	M6
	322/7	15	44	M7
	322/7	16	07	M8
Track 2	322/7	16	55	M10
	322/7	17	18	M11
	322/7	17	42	M12
	322/7	18	06	M13
	322/7	18	29	M14
	322/7	18	53	M15
Track 5	322/7	20	27	M19
	322/7	20	51	M20
	322/7	21	15	M21
	322/7	21	38	M22
	322/7	22	02	M23
	322/7	22	25	M24
	322/7	22	49	M25
	322/7	23	13	M26
Track 7	323/7 (NOV 19)	00	00	M1
	323/7	00	24	M2
	323/7	00	47	M3
	323/7	01	23	M4
	323/7	01	46	M5
	323/7	02	27	M6
	323/7	02	51	M7
<hr/>				
Reel 54				
Track 1	323/7	03	38	M9
	323/7	04	01	M10
	323/7	04	25	M11

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 1	323/7	04	49	M12
	323/7	05	12	M13
	323/7	05	36	M14
	323/7	06	00	M15
Track 2	323/7	06	47	M17
	323/7	13	07	M18
	323/7	13	31	M19
	323/7	14	07	M20
	323/7	14	37	M21
	323/7	15	00	M22
	323/7	15	24	M23
Track 5	323/7	16	11	M25
	323/7	16	35	M26
	323/7	16	58	M27
	323/7	17	22	M28
	323/7	17	46	M29
	323/7	18	07	M30
	323/7	18	33	M31
	323/7	18	56	M32
Track 7	323/7	19	44	M34
	323/7	20	08	M35
	323/7	20	31	M36
	323/7	20	55	M37
	323/7	21	18	M38
	323/7	21	42	M39
	323/7	22	06	M40
	323/7	22	29	M41
	323/7	22	53	M42
<hr/>				
Reel 55				
Track 1	323/7	23	40	M44
	324/7 (NOV 20)	00	04	M1
	324/7	00	27	M2
	324/7	00	51	M3
	324/7	01	14	M4
	324/7	01	38	M5
	324/7	02	02	M6

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 2	324/7	02	49	M8
	324/7	03	13	M9
	324/7	03	36	M10
	324/7	04	00	M11
	324/7	04	24	M12
	324/7	04	47	M13
	324/7	05	18	M14
Track 5	324/7	06	05	M16
	324/7	06	29	M17
	324/7	18	11	M18
	324/7	20	48	M19
	324/7	21	12	M20
	324/7	21	36	M21
	324/7	21	59	M22
Track 7	324/7	22	46	M24
	324/7	23	10	M25
	325/7 (NOV 21)	18	17	M1
	325/7	18	40	M2
	325/7	20	50	M3
	325/7	21	13	M4
	325/7	21	37	M5
	325/7	22	00	M6
<hr/>				
Reel 56				
Track 1	325/7	23	12	M9
	326/7 (NOV 22)	18	10	M1
	326/7	20	53	M2
	326/7	21	16	M3
	326/7	21	40	M4
	326/7	22	03	M5
	326/7	22	27	M6
	326/7	22	51	M7
Track 2	327/7 (NOV 23)	18	14	M1
	327/7	21	01	M2
	327/7	21	24	M3
	327/7	21	48	M4
	327/7	22	12	M5
	327/7	22	35	M6
	327/7	22	59	M7
	328/7 (NOV 24)	18	07	M1

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 5	329/7 (NOV 25)	18	11	M1
	330/7 (NOV 26)	20	52	M1
	330/7	21	16	M2
	330/7	21	39	M3
	330/7	22	03	M4
	330/7	22	27	M5
	330/7	22	50	M6
Track 7	330/7	22	20	Moon
	330/7	23	32	Moon
Reel 57				
Track 1	333/7 (NOV 29)	18	10	M1
	334/7 (NOV 30)	18	15	M1
	337/7 (DEC 3)	18	11	M1
	337/7	21	48	M2
	337/7	22	11	M3
	337/7	22	35	M4
Track 2		Empty		
Track 5		Empty		
Track 7		Empty		
Reel 58				
Track 1	341/7 (DEC 7)	18	24	M1
	342/7 (DEC 8)	18	30	M1
	343/7 (DEC 9)	18	22	M1
	344/7 (DEC 10)	18	00	M1
Track 2	344/7	22	38	M2
	344/7	23	15	M3
	345/7 (DEC 11)	18	06	M1
Track 5		Empty		
Track 7		Empty		

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
<hr/>				
Reel 59				
Track 1	362/7 (DEC 28)	21	38	M1
	362/7	22	02	M2
	363/6 (DEC 29)	18	12	M1
	363/7	20	02	M2
	363/7	20	26	M3
	363/7	20	49	M4
Track 2	364/7 (DEC 30)	18	03	M1
Track 5		Empty		
Track 7		Empty		
<hr/>				
Reel 60				
Track 1	004/8 (JAN 4)	02	15	M1
	004/8	02	39	M2
	004/8	03	02	M3
	004/8	03	26	M4
	004/8	03	49	M5
	004/8	04	13	M6
	004/8	04	37	M7
Track 2	004/8	05	24	M9
	004/8	05	48	M10
	004/8	06	11	M11
	004/8	06	35	M12
Track 5	005/8 (JAN 5)	13	43	M1
	005/8	14	07	M2
	005/8	14	30	M3
	005/8	14	54	M4
	005/8	15	18	M5
	005/8	15	41	M6
	005/8	16	05	M7
	005/8	16	28	M8
Track 7	005/8	17	36	M9
	005/8	18	00	M10
	005/8	18	24	M11
	005/8	18	47	M12
	005/8	19	11	M13
	005/8	19	35	M14
	005/8	19	58	M15
	005/8	20	22	M16

Reel & Track No.	Day	Hr.	Time Min.	Sequence No.
<hr/>				
Reel 61				
Track 1	005/8	21	10	M18
	005/8	21	33	M19
	005/8	21	57	M20
	005/8	22	20	M21
	005/8	22	44	M22
	005/8	23	08	M23
	005/8	23	31	M24
	005/8	23	55	M25
Track 2		Empty		
Track 5		Empty		
Track 7		Empty		
<hr/>				
Reel 62				
Track 1	006/8 (JAN 6)	00	42	M2
	006/8	01	06	M3
	006/8	01	29	M4
	006/8	01	53	M5
	006/8	02	17	M6
	006/8	02	40	M7
	006/8	03	04	M8
Track 2		Empty		
Track 5	006/8	04	15	M11
	006/8	04	39	M12
	006/8	05	02	M13
	006/8	05	26	M14
	006/8	05	49	M15
	006/8	06	20	M16
	006/8	06	37	M17
Track 7		Empty		
<hr/>				
Reel 63				
Track 1		Empty		

Reel & Track No.	Day	Time		Sequence No.
		Hr.	Min.	
Track 2	029/8 (JAN 29)	20	02	M1
	029/8	20	23	M2
	029/8	20	47	M3
	029/8	21	10	M4
	029/8	21	34	M5
	029/8	21	58	M6
	029/8	22	21	M7
Track 5	030/8 (JAN 30)	16	24	M1
	030/8	16	48	M2
	030/8	17	12	M3
	030/8	17	35	M4
	030/8	17	59	M5
Track 7	030/8	21	03	M6
	030/8	21	27	M7
	030/8	21	50	M8
	031/8 (JAN 31)	21	07	M1
	031/8	21	31	M2
	031/8	21	54	M3
	031/8	22	18	M4
	031/8	22	42	M5

DIGITAL DATA TAPES

Local Date	Greenwich Day	Picture Start Time			Tape ID
		Hr.	Min.	Sec.	
March 22, 1967	081	20	58	40	ATSB-15
	081	21	21	36	ATSB-14
	081	21	44	26	ATSB-13
	081	22	30	14	ATSB-11
	081	22	53	09	ATSB-12
	081	23	38	58	ATSB-1
	082	00	01	55	ATSB-2
	082	00	24	45	ATSB-3
	082	00	47	37	ATSB-4
	082	01	10	33	ATSB-5
	082	01	33	28	ATSB-6
	082	01	56	25	ATSB-7
	082	02	19	16	ATSB-8
	082	02	42	09	ATSB-9
	082	03	05	08	ATSB-10
April 15, 1967	105	20	24	31	ATSB-21
	105	21	18	48	ATSB-22
	105	21	42	02	ATSB-20
	105	22	05	17	ATSB-16
	106	00	48	50	ATSB-17
April 16, 1967	106	20	12	38	ATSB-31
	106	20	35	53	ATSB-32
	106	20	59	07	ATSB-27
	106	21	22	21	ATSB-33
	106	21	45	36	ATSB-30
	106	22	08	55	ATSB-26
	106	22	32	07	ATSB-34
	106	22	55	21	ATSB-28
	106	23	18	36	ATSB-29
	106	23	41	53	ATSB-135
April 17, 1967	107	20	34	30	ATSB-44
	107	20	58	05	ATSB-74
	107	21	21	01	ATSB-35
	107	21	44	15	ATSB-43
	107	22	07	35	ATSB-73
	107	22	30	46	ATSB-36
	107	22	54	00	ATSB-37
	107	23	17	15	ATSB-75
	108	00	03	45	ATSB-76

DIGITAL DATA TAPES

Local Date	Greenwich Day	Picture Start Time Hr. Min. Sec.	Tape ID
April 18, 1967	108	20 20 23	ATSB-42
	108	20 43 43	ATSB-41
	108	21 07 00	ATSB-77
	108	21 30 13	ATSB-38
	108	21 56 32	ATSB-78
	108	22 19 48	ATSB-40
	108	22 43 02	ATSB-39
	108	23 06 16	ATSB-54
	108	23 29 40	ATSB-53
April 19, 1967	109	20 38 23	ATSB-79
	109	21 01 50	ATSB-52
	109	21 24 55	ATSB-136
	109	21 48 10	ATSB-51
	109	22 11 26	ATSB-50
	109	22 34 39	ATSB-137
	109	22 58 55	ATSB-49
	109	23 21 12	ATSB-48
	109	23 44 24	ATSB-138
	110	00 07 42	ATSB-47
April 20, 1967	110	20 34 58	ATSB-80
	110	20 57 13	ATSB-45
	110	21 20 29	ATSB-46
	110	21 43 46	ATSB-195
	110	22 07 00	ATSB-72
	110	22 30 17	ATSB-71
	110	22 53 32	ATSB-196
	110	23 16 49	ATSB-70
	110	23 40 06	ATSB-69
	111	00 03 22	ATSB-81
April 21, 1967	111	13 08 04	ATSB-139
	111	13 31 27	ATSB-175
	111	14 17 53	ATSB-67
	111	14 41 07	ATSB-176
	111	15 27 39	ATSB-65
	111	15 50 55	ATSB-177
	111	16 37 27	ATSB-60
	111	17 00 44	ATSB-178
	111	17 47 15	ATSB-61
	111	18 10 29	ATSB-179

DIGITAL DATA TAPES

Local Date	Greenwich Day	Picture Start Time			Tape ID
		Hr.	Min.	Sec.	
April 21, 1967	111	18	57	01	ATSB-57
	111	19	43	31	ATSB-56
	111	20	06	46	ATSB-63
	111	20	30	03	ATSB-170
	111	20	53	27	ATSB-64
	111	21	23	38	ATSB-55
	111	21	46	47	ATSB-171
	111	22	10	07	ATSB-92
	111	22	33	24	ATSB-91
	111	22	56	40	ATSB-172
	111	23	20	01	ATSB-90
	111	23	43	09	ATSB-89
	112	00	29	41	ATSB-102
	112	01	39	37	ATSB-83
	112	02	02	40	ATSB-88
	112	03	12	25	ATSB-104
	112	03	35	42	ATSB-86
	112	04	22	11	ATSB-93
	112	04	45	28	ATSB-85
	112	05	31	57	ATSB-84
	112	05	55	14	ATSB-103
	112	06	41	42	ATSB-82
April 22, 1967	112	20	09	40	ATSB-100
	112	20	32	51	ATSB-99
	112	20	56	09	ATSB-98
	112	21	19	26	ATSB-97
	112	21	42	43	ATSB-96
	112	22	05	58	ATSB-197
	112	22	29	14	ATSB-95
	112	22	52	32	ATSB-94
	112	23	15	46	ATSB-198
	112	23	37	02	ATSB-121
April 23, 1967	113	20	03	35	ATSB-122
	113	20	26	52	ATSB-123
	113	20	50	09	ATSB-124
	113	21	13	27	ATSB-120
	113	21	36	40	ATSB-119
	113	21	59	39	ATSB-199
	113	22	23	17	ATSB-117

DIGITAL DATA TAPES

Local Date	Greenwich	Picture Start Time			Tape ID
	Day	Hr.	Min.	Sec.	
April 23, 1967	113	23	09	46	ATSB-200
	113	23	33	03	ATSB-118
	113	23	56	17	ATSB-116
April 24, 1967	114	16	09	49	ATSB-154
	114	20	39	00	ATSB-115
	114	21	48	28	ATSB-201
	114	22	50	49	ATSB-202
	114	23	15	00	ATSB-111
	114	23	38	34	ATSB-112
	115	00	02	00	ATSB-153
	115	01	34	57	ATSB-149
April 25, 1967	115	15	55	08	ATSB-165
	115	17	42	00	ATSB-145
	115	19	04	50	ATSB-203
	115	20	30	05	ATSB-142
	115	20	53	25	ATSB-205
	115	21	16	48	ATSB-113
	115	22	30	00	ATSB-114
	115	22	53	18	ATSB-213
	115	23	16	34	ATSB-110
	115	23	39	52	ATSB-109
	116	00	26	28	ATSB-106
	116	02	50	49	ATSB-214
	116	05	26	23	ATSB-215
April 26, 1967	116	13	13	58	ATSB-143
	116	13	37	23	ATSB-144
	116	14	24	04	ATSB-156
	116	16	15	18	ATSB-105
	116	17	50	59	ATSB-216
	116	18	14	21	ATSB-125
	116	20	03	58	ATSB-217
	116	20	27	00	ATSB-127
	116	20	50	00	ATSB-128
	116	21	13	53	ATSB-218
	116	21	37	12	ATSB-129
	116	22	00	29	ATSB-130
	116	22	23	47	ATSB-219
	116	22	47	04	ATSB-131

DIGITAL DATA TAPES

Local Date	Greenwich Day	Picture Start Time			Tape ID
		Hr.	Min.	Sec.	
April 26, 1967	116	23	33	40	ATSB-220
	116	23	57	00	ATSB-132
	117	00	43	36	ATSB-159
	117	02	00	43	ATSB-162
	117	03	52	26	ATSB-174
	117	04	55	15	ATSB-158
May 9, 1967	129	16	03	27	ATSB-134
	129	18	51	40	ATSB-167
May 10, 1967	130	18	15	30	ATSB-180
	130	18	39	02	ATSB-181
May 15, 1967	135	16	22	38	ATSB-183
	135	16	46	06	ATSB-221
May 16, 1967	136	17	34	50	ATSB-182
	137	02	32	36	ATSB-184
May 17, 1967	137	17	35	05	ATSB-224
June 12, 1967	164	04	04	00	ATSB-243
June 25, 1967	176	21	58	03	ATSB-193
	176	22	21	33	ATSB-194
July 14, 1967	196	03	41	38	ATSB-257
July 15, 1967	196	13	23	12	ATSB-256
	196	14	10	20	ATSB-255
	196	14	57	27	ATSB-254
	196	15	44	44	ATSB-253
	196	16	31	52	ATSB-263
	196	17	19	07	ATSB-264
	196	18	06	18	ATSB-265
	196	18	53	30	ATSB-266
	196	19	40	40	ATSB-267
	196	20	27	49	ATSB-268
	196	21	15	04	ATSB-269
	196	22	02	12	ATSB-271
	196	22	49	23	ATSB-170

DIGITAL DATA TAPES

Local Date	Greenwich Day	Picture Start Time			Tape ID
		Hr.	Min.	Sec.	
July 15, 1967	196	23	36	33	ATSB-272
	197	00	23	43	ATSB-237
	197	01	10	54	ATSB-236
	197	01	58	06	ATSB-235
	197	02	45	34	ATSB-233
	197	03	48	51	ATSB-234
	197	03	56	02	ATSB-262
	197	04	43	15	ATSB-261
	197	06	08	52	ATSB-260
	197	06	40	39	ATSB-259
July 16, 1967	197	18	37	28	ATSB-258
	197	21	40	45	ATSB-246
	197	22	27	57	ATSB-247
	198	05	05	31	ATSB-248
	198	18	05	25	ATSB-249
July 17, 1967	198	20	45	07	ATSB-250
	198	?	?	?	ATSB-251
	198	23	09	54	ATSB-252
	199	03	47	13	ATSB-244
July 18, 1967	199	18	07	48	ATSB-245
July 24, 1967	205	22	32	52	ATSB-287
July 25, 1967	206	18	10	52	ATSB-286
	207	04	17	08	ATSB-284
July 26, 1967	207	21	05	12	ATSB-285
July 27, 1967	208	21	51	56	ATSB-283
	208	22	39	10	ATSB-307
July 31, 1967	212	18	07	25	ATSB-304
	212	20	55	31	ATSB-300
	212	22	06	17	ATSB-301
	212	22	52	07	ATSB-303
August 1, 1967	213	21	21	46	ATSB-302
	213	22	08	59	ATSB-299
	213	22	56	07	ATSB-298

DIGITAL DATA TAPES

Local Date	Greenwich Day	Picture Start Time			Tape ID
		Hr.	Min.	Sec.	
August 2, 1967	214	22	17	50	ATSB-312
August 6, 1967	218	21	52	01	ATSB-458
August 8, 1967	220	23	19	12	ATSB-465
August 10, 1967	222	20	49	27	ATSB-464
	222	21	36	38	ATSB-460
	222	22	23	48	ATSB-461
	222	23	11	02	ATSB-462
August 11, 1967	223	18	04	36	ATSB-292
	223	21	22	16	ATSB-291
	223	22	09	28	ATSB-290
	223	22	56	38	ATSB-288
August 12, 1967	224	18	26	24	ATSB-294
	224	21	13	17	ATSB-295
	224	22	00	30	ATSB-297
	224	22	46	41	ATSB-296
August 13, 1967	225	20	50	53	ATSB-321
	225	21	38	08	ATSB-320
	225	22	25	19	ATSB-319
August 15, 1967	227	13	17	30	ATSB-339
	227	14	07	31	ATSB-340
	227	14	54	41	ATSB-341
	227	15	41	57	ATSB-318
	227	16	29	09	ATSB-323
	227	17	16	22	ATSB-317
	227	18	03	35	ATSB-342
	227	18	50	48	ATSB-344
	227	19	38	01	ATSB-348
	227	20	25	11	ATSB-324
	227	21	12	24	ATSB-383
	227	21	59	37	ATSB-346
	227	22	46	50	ATSB-384
	228	01	08	28	ATSB-343
	228	01	55	40	ATSB-382

DIGITAL DATA TAPES

Local Date	Greenwich Day	Picture Start Time			Tape ID
		Hr.	Min.	Sec.	
August 16, 1967	228	18	27	38	ATSB-350
	228	22	54	05	ATSB-358
August 17, 1967	229	21	31	45	ATSB-316
	229	22	18	58	ATSB-315
	229	23	06	08	ATSB-360
August 18, 1967	230	23	11	20	ATSB-349
August 19, 1967	231	21	31	56	ATSB-353
	231	22	19	06	ATSB-351
	231	23	29	58	ATSB-361
August 20, 1967	232	18	10	42	ATSB-363
	232	22	57	59	ATSB-347
	232	23	15	12	ATSB-352
August 21, 1967	234	05	03	53	ATSB-333
	234	05	45	00	ATSB-386
August 22, 1967	235	05	04	00	ATSB-332
	235	05	38	21	ATSB-331
August 24, 1967	236	16	07	44	ATSB-392
	236	16	54	57	ATSB-393
	236	17	42	10	ATSB-389
	236	18	32	51	ATSB-390
	236	19	20	03	ATSB-391
	236	22	08	05	ATSB-334
	236	22	55	18	ATSB-330
	237	06	00	14	ATSB-380
August 25, 1967	237	16	14	08	ATSB-376
	237	23	29	46	ATSB-328
August 31, 1967	243	21	28	14	ATSB-338
	243	22	15	26	ATSB-371
	243	23	02	39	ATSB-372
September 2, 1967	245	23	58	02	ATSB-336
	246	01	01	11	ATSB-406

DIGITAL DATA TAPES

Local Date	Greenwich Day	Picture Start Time			Tape ID
		Hr.	Min.	Sec.	
September 3, 1967	246	21	29	17	ATSB-403
	246	22	16	30	ATSB-404
	246	23	03	42	ATSB-335
	247	01	14	21	ATSB-107
	247	04	17	36	ATSB-397
	247	04	29	43	ATSB-405
September 5, 1967	248	18	37	57	ATSB-398
	249	01	04	00	ATSB-399
	249	03	54	49	ATSB-400
September 6, 1967	249	22	23	49	ATSB-402
September 8, 1967	252	00	56	45	ATSB-432
	252	01	43	16	ATSB-431
September 9, 1967	252	14	51	12	ATSB-430
	252	15	51	00	ATSB-440
	252	16	38	09	ATSB-439
	252	17	25	21	ATSB-438
	252	18	12	34	ATSB-412
	252	21	01	26	ATSB-411
	252	21	51	37	ATSB-410
	252	22	38	45	ATSB-408
	253	01	14	31	ATSB-409
September 10, 1967	253	21	28	27	ATSB-454
	253	22	15	38	ATSB-455
	253	22	47	00	ATSB-422
	254	01	46	52	ATSB-452
September 11, 1967	254	18	18	26	ATSB-415
	254	23	01	43	ATSB-414
	255	01	13	28	ATSB-413
September 12, 1967	255	18	48	22	ATSB-543
September 13, 1967	256	18	08	52	ATSB-426
	257	04	04	11	ATSB-429

DIGITAL DATA TAPES

Local Date	Greenwich Day	Picture Start Time			Tape ID
		Hr.	Min.	Sec.	
September 14, 1967	257	21	23	08	ATSB-423
	257	22	27	56	ATSB-450
September 15, 1967	258	23	26	50	ATSB-425
	259	03	49	50	ATSB-436
September 16, 1967	259	14	50	54	ATSB-481
	259	16	24	53	ATSB-435
	259	17	12	06	ATSB-449
	259	17	59	16	ATSB-448
	259	18	46	31	ATSB-447
	259	19	33	40	ATSB-477
	259	20	20	54	ATSB-446
	259	21	08	03	ATSB-417
	259	21	55	16	ATSB-416
	259	22	42	30	ATSB-424
	259	23	39	38	ATSB-427
	260	00	16	51	ATSB-480
	260	02	38	20	ATSB-479
	260	03	02	07	ATSB-482
	260	03	49	14	ATSB-468
	260	04	36	30	ATSB-469
	260	05	23	44	ATSB-475
September 17, 1967	260	14	41	20	ATSB-473
	260	15	28	34	ATSB-495
	260	16	15	42	ATSB-484
	260	17	02	56	ATSB-483
	260	17	50	09	ATSB-470
	260	18	37	21	ATSB-472
	260	19	24	31	ATSB-471
	260	20	58	55	ATSB-467
	260	23	07	22	ATSB-492
	260	23	54	34	ATSB-466
	261	00	41	40	ATSB-514
	261	03	03	22	ATSB-512
	261	03	50	34	ATSB-513
September 18, 1967	261	16	17	30	ATSB-418
	261	16	27	55	ATSB-419

DIGITAL DATA TAPES

Local Date	Greenwich	Picture Start Time			Tape ID
	Day	Hr.	Min.	Sec.	
September 18, 1967	261	16	55	33	ATSB-420
	261	17	21	36	ATSB-421
	261	17	47	17	ATSB-428
	261	18	11	39	ATSB-445
	261	18	30	20	ATSB-444
	261	19	07	50	ATSB-443
	261	19	33	07	ATSB-442
	261	20	00	07	ATSB-441
	261	20	24	02	ATSB-489
	261	21	18	48	ATSB-493
	261	22	54	05	ATSB-515
	261	23	17	30	ATSB-490
September 29, 1967	272	22	30	16	ATSB-503
	273	04	01	06	ATSB-504
September 30, 1967	273	18	14	57	ATSB-505
	273	20	55	04	ATSB-501
	273	21	42	17	ATSB-502
	273	22	29	33	ATSB-499
October 1, 1967	274	18	17	23	ATSB-500
	274	20	55	47	ATSB-496
	274	21	43	00	ATSB-497
October 2, 1967	275	18	14	42	ATSB-506
	275	23	06	06	ATSB-498
	276	04	32	08	ATSB-509
October 3, 1967	276	21	49	22	ATSB-508
	276	22	36	32	ATSB-507
	277	03	23	15	ATSB-511
October 4, 1967	277	21	12	10	ATSB-510
October 14, 1967	287	18	13	10	ATSB-535
	288	00	52	58	ATSB-534
	288	01	38	05	ATSB-533
	288	03	48	47	ATSB-531

DIGITAL DATA TAPES

Local Date	Greenwich Day	Picture Start Time			Tape ID
		Hr.	Min.	Sec.	
October 15, 1967	288	18	08	51	ATSB-532
	289	03	55	45	ATSB-525
	289	08	12	25	ATSB-524
	289	08	36	42	ATSB-523
October 17, 1967	290	18	24	40	ATSB-521
	290	20	42	10	ATSB-548
	290	21	18	04	ATSB-522
	290	22	05	15	ATSB-540
	290	22	34	48	ATSB-536
	291	00	17	53	ATSB-537
	291	01	05	07	ATSB-538
	291	04	22	06	ATSB-539
October 18, 1967	291	21	06	45	ATSB-517
	291	21	54	00	ATSB-516
	291	22	17	37	ATSB-518
	291	23	04	48	ATSB-519
	292	00	13	36	ATSB-520
	292	04	14	20	ATSB-530
October 19, 1967	292	18	49	29	ATSB-529
	293	01	00	52	ATSB-528
October 20, 1967	293	22	36	16	ATSB-550
	294	00	08	32	ATSB-526
	294	00	42	56	ATSB-527
	294	05	44	18	ATSB-549
October 30, 1967	303	23	08	16	ATSB-544
	303	23	55	32	ATSB-545
	304	03	12	33	ATSB-546
	304	04	17	18	ATSB-580
	304	05	04	38	ATSB-547
	304	06	15	30	ATSB-561

PART IV
THE APPLICATIONS TECHNOLOGY SATELLITE,
ATS-II

ATS-II was launched from the Eastern Test Range, Cape Kennedy, Florida, at 03 hours 23 minutes 01.901 seconds GMT on 6 April 1967. The Agena D failed to ignite for second burn resulting in the ATS-II being left in a highly elliptical orbit rather than a 6000 nautical mile circular prograde orbit. Programmed and achieved orbital parameters were:

ORBITAL ELEMENT	ACHIEVED	PROGRAMMED
APOGEE	11180.56 Km (6032.9 n. mi.)	11107.04 Km (5993.3 n. mi.)
PERIGEE	186.37 Km (100.6 n. mi.)	11106.02 Km (5992.7 n. mi.)
INCLINATION	28.32 Degrees	28.35 Degrees
ECCENTRICITY	0.455	0.005
PERIOD	219.72 Minutes	383.48 Minutes

The gravity gradient stabilizing system functioned as well as could be expected under the circumstances. Stresses induced by the highly elliptical orbit eventually caused two of the four booms to rupture and to induce satellite tumbling.

ATS-II carried an Advanced Vidicon Camera System (AVCS) consisting of a tape recorder and two cameras. Nominally, Camera 1 was to have viewed a 500 x 500 nautical mile section of the earth with a 200 mm, f 16-4.0 lens. Ground resolution at nadir from orbital height was planned to be 0.5 nautical miles. Camera 2 was to view the entire earth disc with a 12 mm, f 11-1.5 lens. Ground resolution was planned to be 10 nautical miles.

Camera 1 produced 19 useful pictures and Camera 2 produced 33 useful pictures during the operational life of the satellite. The first pair of pictures (Camera 1 and 2) was generated on 6 April 1968 from an altitude of 2795 km (1508.2 nm) and 2546 km (1373.8 nm), respectively (Figures 1 and 2). Area viewed in Figure 1 is inset in Figure 2.

The first satellite picture to clearly delineate the Peruvian current in a single picture was taken by Camera 2 at 185528 GMT, 10 April 1967 from an altitude of 10861 km (5860.5 nm) (Figure 3). Camera 2 obtained the first photograph of the full earth disc from an earth orbiting satellite on 11 May 1967 at 050054 GMT at an altitude of 10739 km (5794.7 nm) (Figure 4). The last useful picture taken by the ATS II AVCS was from an altitude of 9468 km (5108.9 nm) at 063312 GMT 19 July, 1967 (Figure 5).

The ATS spacecraft transmitters were silenced on 23 October 1967 at 19 hours 45 minutes 20 seconds GMT.

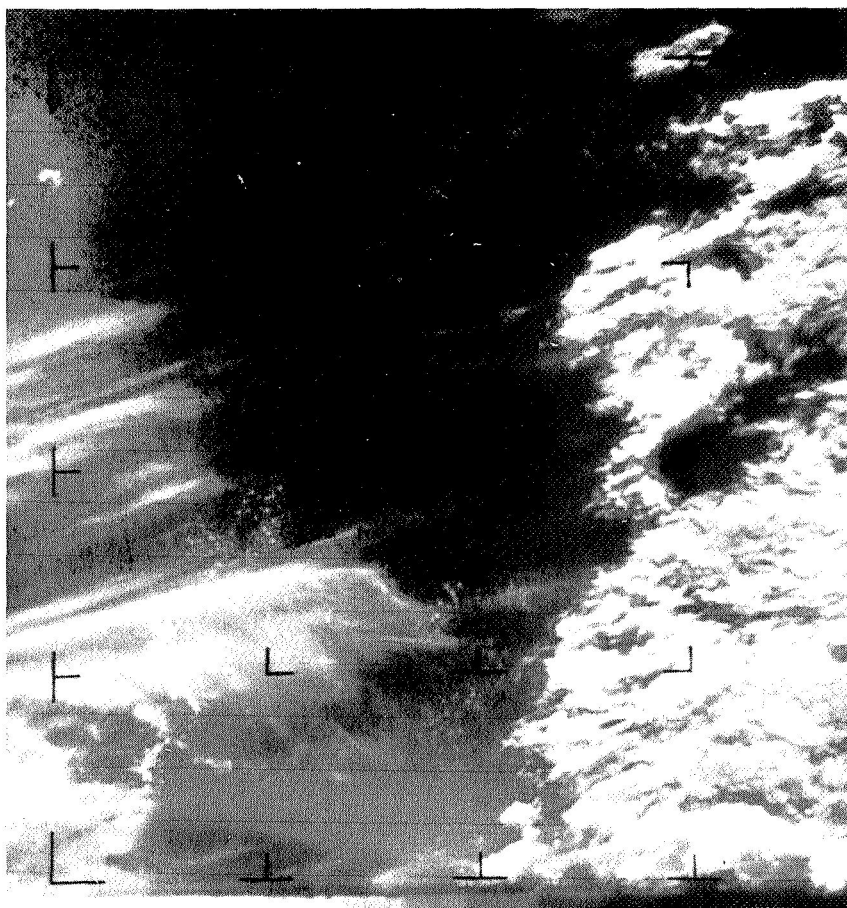


Figure 1. ATS-II AVCS Camera 1 6 April 1967 212844 Z

ATS-II meteorological data are stored at Goddard Space Flight Center. Positive and negative photographic films containing the meteorological data are available to qualified research activities for use in specific studies. Requests for film data should be addressed to:

National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771
ATTN: NADUC, Code 460

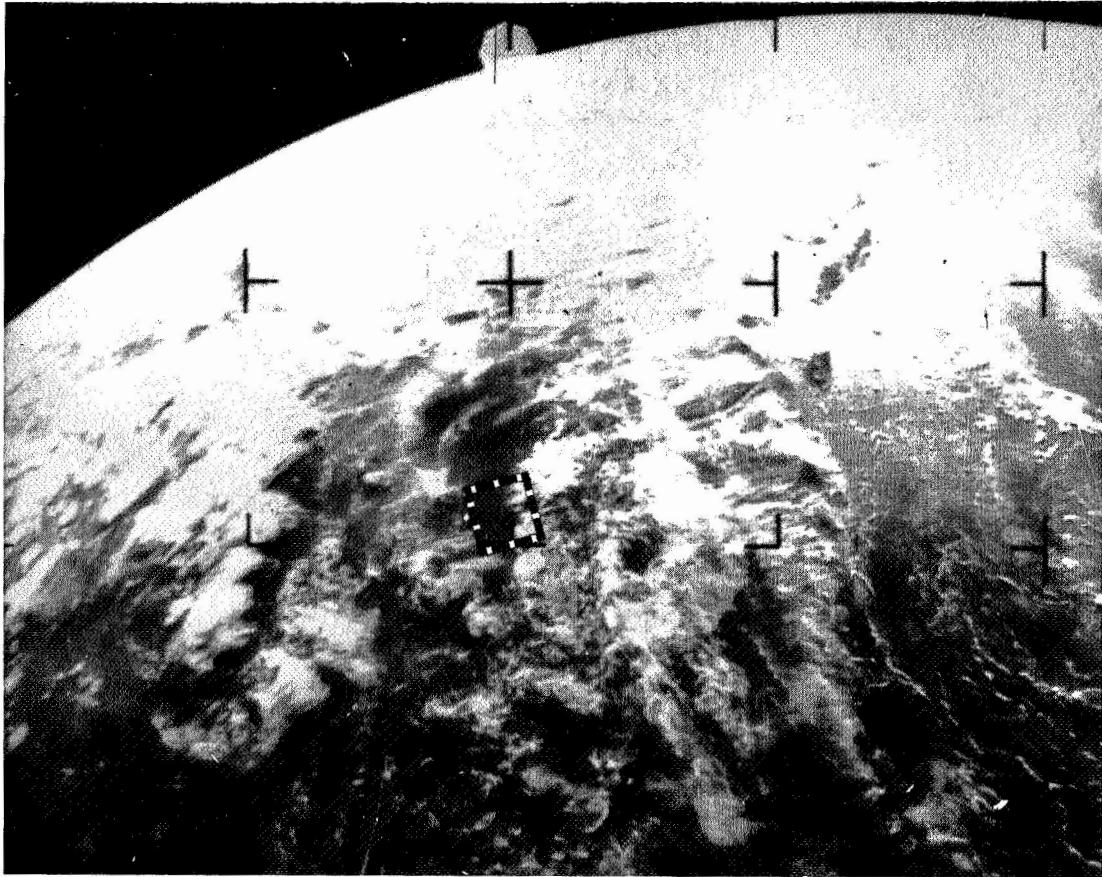


Figure 2. ATS-II AVCS Camera 2 6 April 1967 212718 Z

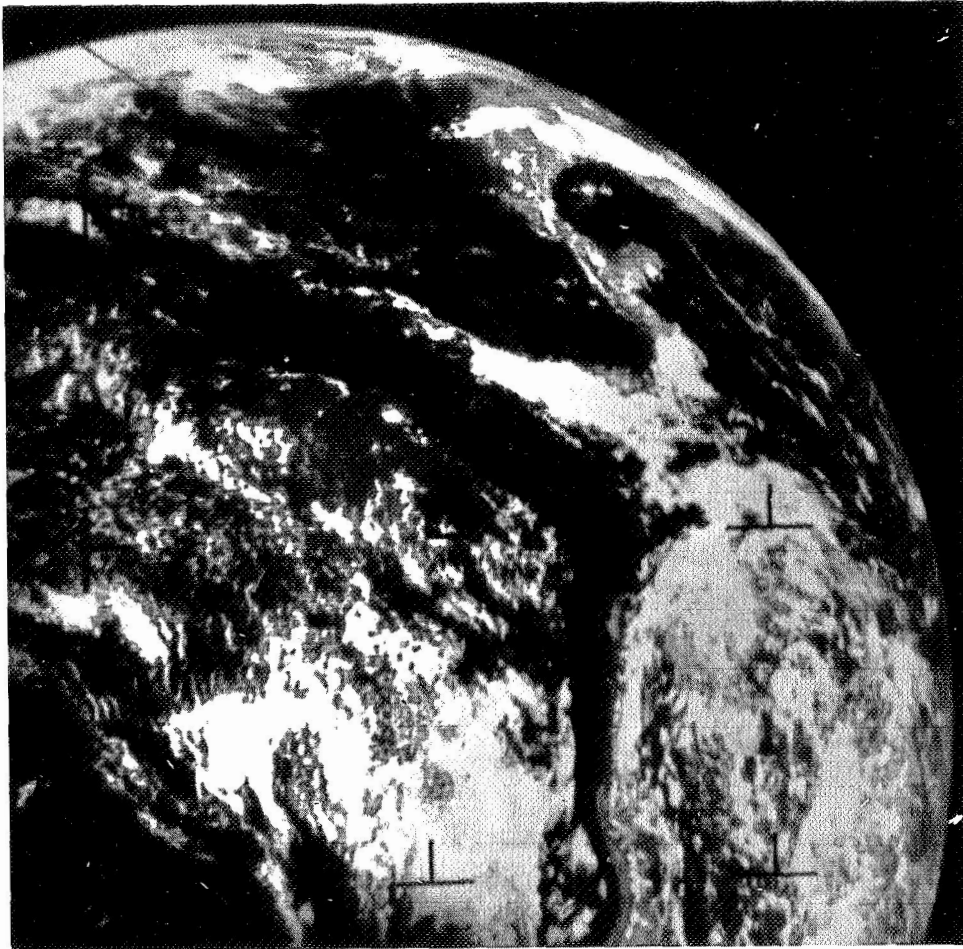


Figure 3. ATS-II AVCS Camera 2 10 April 1967 185528 Z



Figure 4. ATS-II AVCS Camera 2 11 May 1967 050054 Z



Figure 5. ATS-II AVCS Camera 2 19 July 1967 063312 Z